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ABSTRACT

This document is a report on the Houston Teacher Center Project. Section one describes the project's rationale and main objectives as they are cast against the broad cultural changes in today's society. It is stated that the purpose of the teacher center in Houston is to promote a systematic approach to change by involving a number of groups in a consortium, each with its own interests and expertise, to develop and maintain a self-regenerating teacher education program for a changing society. Section two summarizes activities in the project that were designed to familiarize persons engaged in teacher education with the various aspects and details of competency-based teacher education (CBTE). A third section outlines efforts to change institutional perspectives on CBTE. Sections four and five examine the process and results of efforts to change by examining the design, objectives, and modules of the CBTE program. Program development, evaluation of student competencies, and project evaluation are central to chapters six, seven, and eight, respectively. A concluding section lists relevant reports, slides/tapes, modules, and other materials which may be obtained from the Teacher Center, University of Houston. (JB/JA)

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RESTRUCTURING TEACHER EDUCATION

A REPORT OF THE RATIONALE, OBJECTIVES, AND ACTIVITIES OF THE HOUSTON TEACHER CENTER

1970-1973

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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August, 1973

SP 007 460

PREFACE

A post-hoc report on a project which has spanned three years is one which we as project developers and implementers present with some lack of alacrity. This difficulty stems from two areas. For one thing, we recognize that there is a need to present an overall picture in as concise a manner as possible. On the other hand, we recognize that the report must be detailed to describe the subtleties which, from our point of view, made the effort worthwhile and, probably more importantly, are necessary for analyzing readers.

Toward these ends the report is presented in sections. The first section describes the rationale undergirding the Teacher Center Project and its various activities. The project rationale is projected against the broad cultural changes currently enveloping society.

Based on this rationale and a study of the needs of the Houston area, several program goals were set early in the project. These are described in this section.

The second section summarizes activities in the project which were designed to change the perspectives of persons engaged in teacher education --activities of the project staff, University of Houston faculty, teachers, and others in the Houston area described. Within Texas, project personnel have worked with Change Agents from Prairie View College and Pan American University during portions of the program. In addition, they directed three state-wide conferences on CBE. A national CBE conference and daily visitors have been held in Houston, and staff have participated in several conferences on the national scene. Each of these efforts is described in this section.

The third section outlines efforts to change institutional perspectives.

The fourth and fifth sections examine the process and results of program change efforts by examining the designed CBTE program and the subscribed modules.

Section Six describes in detail some preparatory efforts which were made in program development. These efforts, by themselves, are major and are clumped in this section to provide full description.

Section Seven focuses on the reasons which were generated to aid in the evaluation of student competencies.

Section Eight focuses on project evaluation.

Finally, Section Nine lists reports, slide/tapes, modules, and other materials which may be obtained from the Teacher Center at the University of Houston.

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SECTION 1

THE PROCESS OF CHANGE

The project described herein must be placed within a backdrop of rapid societal and cultural changes and their impact on teacher education, a state education agency ready for certification revisions, and the foreground of a college ripe for challenge and change.

THE CULTURAL MILIEU

Pervasive Changes Today

The forces accelerating cultural and societal change have never been greater. Resulting alterations in technology, values, mores, living conditions, institutional influences, and governmental activities have been so pervasive that the process of change may remain today as the one stable element. Margaret Mead wrote, "No man will ever again die in the same world in which he was born."

Twenty-five percent of all people who ever lived and ninety percent of all scientists are alive today. By the year 2000, seventy-five percent of Americans will be concentrated in urban areas, and their median lifespan will approach eighty years or more. The former results from innovations in agriculture, while the latter reflects new medical techniques, drugs, and medicines which have been developed in the past three decades. Both reflect a generally more affluent society, better nutritution, and greater leisure.

Americans are more mobile than ever before. One family in four moves each year. Just a hundred years ago, we were basically a rural nation. [illegible] the predominate move toward urban living, towns became cities, then metropolitan regions. These are now expanding into gigantic megalopolitan complexes with millions of people concentrated in a highly industrialized area criss-crossed by super highway networks, marked by slums and slum clearance projects, characterized by fewer personal contacts between neighbors, and regulated by greater and greater governmental control.

Through chemistry, man has reconstituted natural elements to form useful man-made products--new fabrics, paint, cosmetics, plastics. In electronics, man has developed color television, miniaturized transistors and other electrical parts, and made instant world-wide communication readily available. Nuclear power promises to relieve petroleum-based fuels as the major source of energy. In reviewing Alvin Toffler's Future Shock, Harold Shane wrote:

> It is Toffler's provocative thesis that changes in the last half of the lifetime of a person now 50 years of age are as great or greater than those of the preceding 50,000 years. So powerful is the avalanche of change that most of us are grotesquely unprepared to cope with it. This premature arrival of tomorrow has set us down in a world of our own making, but one in which we, nevertheless, find ourselves strangers. This new world of time, sex, religion, war, and space, bred of exponential change rates, has generated future shock, the shattering stress and disorientation that occur when a human being is subjected to too much change in too little time.[1]

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[1] In Phi Delta Kappan, October, 1970.

The Need for Planned Change

Contrary to the way it has long been viewed, teacher education is not a discrete activity carried on in relative isolation and obscurity. It is to an ever increasing extent directly impacted by the persuasive change and the consequences of change within the society. Thus, any attempt at designing, generating, and operating teacher education programs must start with the premise that the change will be viable only to the extent that the related elements of the social and educational systems are involved and taken into account.

While change has occurred in teacher education for many years, the results have not been spectacular nor pervasive. As Cooper and Weber note:

> Changes and innovations are made in piecemeal fashion. In recent years a number of innovations such as micro-teaching, interaction analysis, and simulation have been introduced into teacher preparation programs. While these innovations offer great potential there usually is little thought given as to how these additions relate to the goals of the entire program. They are usually appended to the ongoing program with little change in the rest of the program taking place. Instead of viewing the whole program as a system with interrelated parts, the program is usually viewed linearly with these innovative practices being tacked on in an additive fashion. This results in a program that may have complementary components or the components may be working in disharmony with each other. The point is that in making changes in their programs most teacher educators do not view the program and its goals as a whole (or a total system) and determine how the various components help to achieve these goals. Nor do they think that if changes are made in one part of the system all the other parts are affected. The net result usually is that despite the addition of some innovative

> practices the total program has not changed significantly.[2]

What is most needed and what is new is to plan for educational change in systemic terms. This involves simultaneously dealing with all of the elements which comprise the total system. It also involves planning the change so as to provide for ongoing interactive, adaptive, and regenerative processes. Purpose, elements, programs, evaluation and feedback, and adaptive response are essential features of such planned change.

PLANNED CHANGE IN TEACHER EDUCATION

Some of the elements with which planned systems change in teacher education must deal include:

1. The institution and its personnel with designated responsibility for teacher education. Often this is a College or School of Education on the university campus;
2. Related and involved units on the campus. Notably this is the College of Arts and Sciences;
3. Teacher education students, both as individuals and as organized groups;
4. The units which operate the schools and the schools themselves. This is the school districts and building units where teachers work and where

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[2] James M. Cooper and Wilford A. Weber, "A Competency-Based Systems Approach to Teacher Education," Chapter 1, (McCutchen, 1972).

student teachers receive part of their training;

5. The state and its agencies which govern and control teacher education, certification, conditions of teacher service, and curricula in the schools;
6. The organized teaching profession (as distinct from the units which employ teachers);
7. The public which is represented through local and state politics as well as through direct contact with the schools in their communities and neighborhoods;
8. Other governmental and community agencies which interact with education through commonalities of concern or overlap of functions; and
9. Other interest groups with concern for education.

Any significant attempt to change teacher education inevitably affects all of the related elements to greater or lesser extent. Each will react in accordance with the way it perceives its interest. It may choose to agree or disagree, support or oppose, strengthen or subvert. Further, any response initiated by one element sets up whole new sets of interactions and forces. It is in realization of this commonality of interest and the systemic nature of change that planned change becomes important. This, combined with mutual respect for the interests and concerns of others, leads readily to the concept of consortium. If planning has to take all elements into account, then all elements should be appreciably involved. The consequence should be greater awareness of reality in its total sense and better capacity to cope with that reality.

Even as the elements are identified and involved systemically, so are the targets of the change process. It is not enough to focus on single targets of change. Human systems have a considerable capacity to resist change, to return after change effort to a new equilibrium which closely approximates the old. Thus planners of change identify multiple targets for their change efforts. Some of the targets where change is needed can be identified as:

1. People who are concerned with teacher education, their attitudes and perspectives, their values and behavior systems;
2. The organizational and communication structures within which teacher education programs operate, including school districts, colleges and universities, and state departments of education; and
3. The curricula studied by prospective teachers.

It is evident that the elements and the targets which exist in interaction in the real world cannot effectively be treated in isolation during a planned change process. The purpose of the Teacher Center in Houston was to promote a systemic approach to change by involving a number of groups in a consortium, each with its own interests and expertise, to develop and maintain a self-regenerating teacher education program for a changing society.

Changing Structures

Structure is an inherent characteristic of all institutions. Change upsets structure; structure tends to stand in the way of change. Most structural arrangements are in part, at least, designed to prevent or delay change. Organization supports stability.

The structure which organizes schools into classes; assigns classes to classrooms; establishes the school year, grades, and periods; and puts a teacher in charge of each classroom, provides a bureaucratic form of managerial competence, and some internal control and predictability. It also limits the capacity of the other elements of the system to change.

Similarly colleges and universities provide their organizational structures. Passing the course within the prescribed semester becomes the criterion of success. Long established precedents of discrete courses in fixed time blocks with lecturing professors do little to enhance the chance of introducing a competency-based teacher preparation program for example.

Each institution has a rationale for its organizational pattern, for its hierarchy of positions and statuses, and for its rules and regulations. Established to cope with reality in the first place, they soon become the reality. What was a means to an end originally often becomes an end in itself.

Where a number of institutions and groups must collaborate to solve larger social problems, the rigidity of perception, organization, and rules within the components soon blocks collective action. At such times there is need for a vehicle which has the capacity to encourage people to step outside of their own perceptual framework and view the situation from the perspective of others.

The consortium is such a vehicle. It contains representatives of all the element organizations. Given a genuine desire for and commitment to action on the part of the different elements, consortia can bring about flexibility of view, commonality of viewpoints, and consensus on and commitments to action. In the complexities of modern institutional life, such consortia are necessary to progress. Basic to this Teacher Center Project is a consortium of institutions dedicated to developing a more effective teacher preparation program.

Changing People

While keeping in mind the concern for change in people on a broad base, and while seeking to influence all people within the target population, this project has had a specific focus. Its first concern was with change in the people who work directly in teacher education on the university campus. In this way teacher education, when properly supported by other efforts, could become an important source of educational change and improvement.

In many cases professors are far from what might be desired or expected insofar as innovative or effective programs are concerned. Too often they are out of date as professionals and out of touch with the modern reality of the school classroom. Standing as they do astride the gateway to the teaching profession, they exercise a massive influence on the nature of what goes on in schools. They do this whether by virtue of what they do or by virtue of what could be done but is not done, or what they encourage and what they discourage.

Far too often professors are long removed from the classrooms for which they prepare teachers. Many have had no experience with cross-cultural or subcultural groups. Others have never discovered technology and media. Quite prevalent is the professor whose only instructional mode is the lecture. The number who have been moved to take full advantage of modern insights and developments in the science and art of modifying the behavior of teachers is far too small. Finally, those who proceed from the assumption that teaching is an art or a craft rather than a clinical or applied science is far too great. Bright spots within the situation are those who recognize what can be done and strive to bring it about.

All of this highlighted the need for an active program to re-educate professors and to prepare new professors for service. This could be accomplished in a number of ways:

1. Stimulated and supported efforts at self-renewal;
2. Involvement in program and curriculum development and on special projects; and
3. Making available learning experiences on a smorgasbord basis with choice among alternatives such

as leaves of absence, workshops, conferences, supported projects, travel, assignments in central city schools or agencies, exchange of assignments between institutions, and so on.

Most important in this process is a clear sense of commitment on the part of the institution. The faculty member is directly influenced by the expectations held for his behavior. Similarly he expects institutional recognition and reward for effectively doing what is expected of him.

While prototype programs can identify needed directions, a "critical mass" of educational workers are involved in the change process when making significant impact. Thus, a thesis of this project was that people change if the educational system is to change. Such programs have impact not only upon the assigned project staff, but through a directed dissemination system upon a large percentage of those involved in teacher education.

None of this should be construed as easy. Professors, teachers, and students all have perceptions of what the teacher is and expectations for the teacher's behavior. These exist in the nature of assumptions which govern behavior. Changing them is extremely difficult. Those who would propose new modes for schools are assuming--often naively--that people change easily. In the realm of the behaviors within the primary institutions such as home, school, and church, change comes painfully and slowly.

Making any progress is difficult. Achieving a critical mass of changed behavior so as to tip the scales firmly in the direction of change was the goal, however.

Difficult as changing people may be and is, the fact remains that it is the critical task. Schools will remain the same until teachers change. The programs for the preparation of teachers will never rise above the limits of what teacher trainers can do. Retooling--constant retooling--is the price of a changing society.

Changing Programs

The very idea of a curriculum or a program implies a clear idea of what the student is to become. Proposing innovative programs, similarly, suggests a rejection of the old and a vision of the new. While it admittedly is difficult to accurately foresee the role and functions of the teacher in the future, the seeming confluence of a number of different schools of thought suggests considerable agreement.

There is agreement on what learning and the learner will be like:

1. Learning will be individualized and personalized. It will cease to be packaged by subjects, grades, semesters, or years;
2. It will be seen as one of the most significant activities of the society, beginning early in life for each individual and pervading his life span;

3. It will be seen as the chief means of adapting to rapid changes in the environment;
4. Learning opportunities will cease to be centered in the school or even to be thought of as school centered;
5. Storage and retrieval of information and its distribution will become one of the major industries. Means of access to the centralized systems will be widely distributed through the community and available in homes;
6. In this process the learner will increasingly and quite early in life accept both responsibility for his own education and accountability for his decisions. This will be encouraged as a part of his maturation from the early state of dependence towards independence and interdependence; and
7. Not yet clear is the probable solution to the question of how much face-to-face human interaction will be needed. It seems clear that as the costs of message transmission go down and as the problems and costs of surface movement of people increase the tendency will be to decentralize. This way means that there will be increasing reliance on smaller units (village) within the larger units (megalopolis).

There also is widespread agreement at least on the short term implications of change for the role of the teacher.

1. As opportunities for learning outside the school increase, the role of the teacher as a source of knowledge becomes untenable. Thus, the teacher as presenter will decline rapidly;
2. Much of what is now presented in classroom situations will be mediated, stored in retrieval systems, and delivered to individuals and groups through technology. Some teachers will prepare "software;"
3. Teaching functions will be differentiated and specialized. Organizing, managing, guiding, and stimulating will be generalized functions;
4. Rather than dealing with the peripheral and inconsequential areas of learner concern--as is now the case--the teacher will be involved in examination of social issues and personal concerns;
5. This will require informed, open-minded persons with great skills in guiding the exploration of ideas;
6. The teacher will personify the lifelong learner and model the appropriate behavior in the search for knowledge and wisdom. As such he will be teacher at times, peer at times, and learner at times;
7. The teacher will have a clinical orientation toward learners, seeking to stimulate learning in

each individual;

8. He will have skills in developing laboratory settings for learning; and
9. He will be required to be scrupulously professional and ethical in his treatment of individuals and in the exercise of his influence.

It does not seem possible to look with confidence any great distance into the future and see what schools and school organizations will be. Too many forces outside the control of education will be operating. Nonetheless, some trends are clear.

1. The traditional organizational characteristics and practices may be expected to disappear almost without exception:
   - 5 year old starting age;
   - grades; promotions;
   - 9 or 10 months school year;
   - classrooms as such; study hall; and
   - class periods; passing periods; bells.
2. Learning resources in the form of hardware and software will replace the classroom as the center of attention. At first these will be centralized but later, as distribution systems improve, they will be decentralized within and beyond the school;
3. The "custodial" features which now characterize schools will be greatly modified. Learners will

have much greater freedom and responsibility;

4. The present hierarchical structure of school systems and schools will be modified in the direction of more collegial roles for teachers;
5. The public and other agencies of the community will be more involved in school affairs. This will be appropriately used, however, with the result that professionals will gain stature; and
6. Eventually schools as such may disappear. Schools started local and small; they were deliberately enlarged to make possible broader offerings and more specialization. As urban and metropolitan areas grow more congested and as surface transportation becomes more and more problematic, there is certain to be attempts to find alternatives. Taking learning into homes and communities by electronic technology will be an attractive option since it will be very much cheaper (costs of travel in communities soar as the extensiveness of use goes up; costs of electronic storage, retrieval, and distribution of information go down).

With some reasonable certainty it can be predicted that America will seek to find a viable alternate to size and depersonalization. The village within the megalopolis could be established around decentralized educational and social functions.

Regenerative preservice and inservice programs take the responsibility for insuring that these, and other similar predictions, are considered. If children are to be adequately prepared for their changing future, then teachers should be no less prepared. They will be teaching new and as yet unconceived ideas and knowledges, and doing so by new and perhaps unrealized methods. Thus, any program developed now will constantly undergo revision if it continues to be relevant to the social and technological changes of tomorrow. Several courses of action which appear to have positive consequences are delineated below:

1. The traditional organization of universities should be modified to permit alternatives to courses, credit hours, and grade points;
2. Teacher education should be oriented in the direction of admitting the teacher to the profession when he knows and can do what the profession expects of him. Performance and competence should be the criteria of completion, not passing grades in courses;
3. The performance of faculty in a college of education should be a model for those whom they instruct;
4. Programs should be individualized and personalized;
5. The knowledge, behaviors, and skills required should be learned through experience in instructional units or modules;

6. Those modules which can make effective use of media or be completely mediated should be so treated;
7. Wherever possible modules should be available in more than one form (book; sound; visual and sound; laboratory);
8. Also available should be a variety of options which involve appropriate use of groupings to support learning. Individuals; dyadic pairs, treads; small face-to-face groups; seminar and laboratory size groups; classes; large groups;
9. As wide a range of instructional hardware and software as possible should be utilized both for quality of instruction and for the experience and the model which it provides for students;
10. As rapidly as possible, lecturing and formal teaching should be phased out;
11. The use of teaching behavior laboratories should be emphasized. Professors and students both should have experience with such approaches as simulation; micro-teaching; interaction analysis; evaluation and feedback using audio or video recording; inter-personal relations training; depth seminars. The laboratory should be systemic in design and performance based in orientation;
12. Strong emphasis should be placed on developing

more meaningful relations with the schools and the profession and on increasing the impact of directed field experiences;

13. Teachers in preparation should be given specific performance training in presiding over groups where issues are freely confronted. Such training should concentrate both on enabling the teacher to perform open-mindedly and on managing the group in such a way as to develop these qualities; and

14. All teachers should have both field and laboratory experience, working with learners from backgrounds different from his own.

Changing Professional Preparation

As the teacher education consortium pursues its objective of developing new and more effective approaches, it does so within a broad conceptual framework. This framework is seen as applicable to all programs of professional preparation.

Professions are seen as being characterized by three irreducible criteria (which are in practice interactive and overlapping rather than discrete but which for conceptual purposes are seen as separate):

1. They possess a body of knowledge necessary to making professional assessments and judgments;

2. They have a repertoire of behaviors and skills necessary to the practice of the profession; and
3. They have a professional identity, a code of ethics, and procedures for self-governance and surveillance.

Professional schools are established for the purpose of recruiting to the profession; preparing the trainees by providing them with the needed knowledge, behaviors, and skills; and conducting them through the processes of induction to the profession.

Preparation programs induct lay citizens; they output trained and licensed professionals. The training process involves marked change in the trainee. To effect this change--which involves knowledge, attitudes, beliefs, behaviors, and skills--requires training methods which go far beyond the simple cognitive processes of learning.

IMPLICATIONS FOR HOUSTON

Facilitating Transition

The Houston teacher preparation conceptual model is based on the three basic characteristics of professions--knowledge; behaviors and skills; and professional identity and induction. For each area, performance objectives and appropriate learning experiences are in the process of identification, trial, and evaluation. An orderly transition from the traditional to the new approaches has been a major purpose of the project. This is illustrated in Table 1 on the following page.

Table 1

INSTRUCTIONAL MODES IN TRANSITION

Traditional		New Program
Course Oriented		Performance-Based
Lecture - Class Groups		Individualized--Personalized - Use of Varied Size Groups
Textbook - Examination		Mediated - Multi-media
Observation		Laboratory - Behavior and Skill Development
Student Teaching		Participation - Aides - Tutorials
		Internship
	Professional Characteristics	
Lecture Textbook	Knowledge	Learning Resources Centers - Multi-Media - Individual; Dyads; Triads; Small Face-To-Face Groups - Performance Oriented
Student Teaching Lecture Textbook Observation	Behaviors and Skills	Laboratories - Behavior Development - Performance Oriented - Simulation; Seminar; Group Process; Micro-Teaching; Interaction Analysis: Training Confrontation; Self-Examination Games; Role Playing - Supportive Environment; Group Emphasis; Feedback Techniques
Student Teaching Observation Lecture	Induction	Observation-Participation - Aide - Tutorial - Internship

This transition was initiated as early as the fall of 1966, and was accelerated by a new building designed specifically to facilitate the use of relevant and functional educational principles. The faculty has identified six objectives to guide curriculum development. These are:

1. Exemplify what it explicates.
2. Test and demonstrate in practice within the teaching and learning activities of the College the best practices of the leading innovative elementary and secondary schools of the nation.
3. Re-examine the professional components of teacher education to ensure that the relevant insights from the social and behavioral sciences are included and used in professional education courses.
4. Develop laboratory training programs, utilizing the latest technologies and insights, to make the preparation programs more effective.
5. Make the study of learning and teaching in the College a matter of research and development. In a very real sense the entire College program should be a subject of laboratory study.
6. Prepare teachers to live and work effectively in a society which is characterized by many forms of cultural gaps. Specifically this refers to what is widely known as the "generation gap" and to the difference which exists between and among the dominant culture and its sub-cultures.

The first objective commits the faculty to modeling the behavior which it advocates. No longer could we lecture about individualizing instruction; small groups, individual conferences, and increased student-teacher interaction thus became the accepted mode of delivery. Rather than talk about educational ideas, faculty employed them in their work with students.

The second objective is based on the notion that a College of Education should promote promising innovations and provide prospective and in-service teachers with actual experience with them during training. This has led to use of a variety of educational media, specific exploration of experimental programs employed in establishing organizational innovations such as Individually Guided Instruction, experimentation with simulation and gaming tactics, and developmental work with specifically delineated instructional strategies such as set, pacing, questioning modes, closure, and transitions.

The third objective reasserts the belief that teaching is a professional activity undergirded by the behavioral sciences and by applied research. This objective also emphasizes the necessity for continued refinement of program components based on feedback.

The fourth objective proceeds from the proposition that all too often present teacher behaviors have been learned in the general culture rather than in professional preparation programs, thus providing a major source of educational inadequacy. Effective teaching depends upon knowledge, behaviors, and skills which are not available in the general culture. For teacher education to be effective, more powerful, explicit instructional strategies must be employed. Understanding the theoretical constructs for such strategies, as well as demonstrating them in real and simulated settings is central to our programs.

The fifth objective proposes that a teacher preparation center is a place where students and professors alike and together consciously devise and manipulate learning environments for desired effect.

The last objective explicates the need for preparing teachers to deal with cultural differences between them and their students. This problem is perceived as universal in a changing society and is made more difficult in the presence of cultural sub-groups. As societal changes continue to accelerate, the need for open and regenerating teachers becomes more accute.

Three years ago when this project was initiated, the following prognosis for implementation of CBTE was made:

> The Houston TTT is seen by the faculty as speeding the process of implementation. Within a 3-year period or less this project will be expected to fully implement the model for the pilot populations. Full implementation within the regular programs will follow at a rapid rate.[3]

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[3] Proposal for Funding, November, 1970, p. A-21.

A five-year period for the transition to CBTE was projected in the original proposal; the college is still adhering to this time line. Beginning with the fall, 1973, all entering prospective teachers, whether they are candidates for elementary, secondary, or all-level certification, will enroll in a CBTE Program. More than 600 students thus enter the program this fall, another 600 in the spring, and within two years all undergraduate students will be involved in competency-based programs.

Project Goals

The basic purpose of the program during the past three years has been to change people, programs, and institutional structure in such a way that viable, adaptable, more effective preparation programs will result. Within this context, seven objectives were identified in the original proposal.[4]

1. The overarching purpose of this project is to affect change in education through re-educating and retraining the teacher education personnel who potentially preside over the wellspring, the source, of educational practice;
2. Closely related is the objective of providing a source of supply for new teacher educators to perpetuate and expand the capacity to influence education through effective teacher preparation;

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[4] Ibid., pp. A-23 - A-24.

3. Similarly, the project aspires to preparing a supply of teachers, who, by virtue of their training, can be models and leaders in the profession;
4. As a deliberate by-product of faculty re-development wholly new programs of teacher preparation will be developed. These will be:
    - A. Performance-Based,
    - B. Oriented towards the problems of crossover, of dealing with differences in cultural backgrounds,
    - C. Individual and personalized, and
    - D. Systemic, with interrelated use of media and technology, laboratory training, and directed field-based experiences;
5. To develop performance criteria and means for assessing them which are an integral part of the training design but at the same time can become the basis for statewide teacher certification;
6. To develop and demonstrate in action an effective consortium of participants in and contributors to the preparation of teachers. This will include universities and colleges, schools, communities, students, the organized profession, and the State Department of Education; and

7. To develop a communication and dissemination system through which other interested educational consortia could utilize project experience in their settings.

SECTION 2

IMPACT ON PEOPLE

Comprehensive changes in institutional practice and in professional education programs do not occur easily. One of the major targets of such efforts at change is that of the persons involved in the process. With teacher education, this includes those persons in colleges and schools directly involved in designing and implementing such programs, prospective teachers, and advanced graduate students preparing to work in teacher education.

People do not change easily. After change efforts, they often return to a new equilibrium which closely approximates the old. But, regardless of the difficulties and resources required, this aspect of the institutional change process is absolutely vital if program and institutional change is to occur.

THE HOUSTON AREA

The Project Staff

The central thrust of project activities was carried out by those persons on the staff. They were drawn from the University of Houston College of Education, Region IV Educational Services Center, Houston Independent School District, and College of Arts and Sciences in the University of Houston. As financial support from the grant was decreased during each of the three years of the project, the number of persons paid through project funds was decreased. During the first year, 19 part-time persons totaling five and one-half full-time equivalents were on the staff. The second year, 16 persons totaling four and one-half FTE were paid through project funds. The third year 12 persons totaling three and one-half FTE were assigned to the staff.

These resources were supplemented by staff assignments by the College for development and for instruction of prospective teachers in pilot competency-based programs. The commitment to changing teacher preparation in the college is reflected in the extensiveness of college resources devoted to this endeavor. These are summarized in Table 2.1.

Table 2.1

STAFF ASSIGNMENTS AND SOURCE OF SALARY

	Project Funds		College Funds				
			Development		Instruction, Pilot, CBE		
	No. Personnel	FTE	No. Personnel	FTE	No. Personnel	FTE	Total FTE
1970-71	19	5 1/2	0	0	1	1/4	5 3/4
1971-72	16	4 1/2	7	1	10	2	7 1/2
1972-73	12	3 1/2	8	2	11	3	8 1/2

A conservative estimate of college assignments to CBTE efforts during the past three years is 8 1/4 full-time equivalents. With an average salary of $15,000 per FTE, this amounts to about $125,000 in funds expended by the College directly for staff assignments.

This does not include the many hours of unassigned faculty time devoted to committee deliberations, module and material development, and faculty meetings. CBE related matters have engaged faculty for thousands of hours during the past three years. Every faculty member in every department in the College of Education has participated in one way or another in the reconceptualization of professional preparation. This does not imply that all agree with decisions which have been made, or even that all are in accord with the basic principles of CBE. Indeed, the formal and informal debates on this topic have caused all to rethink their philosophy of teacher education and to confront each other with their philosophical differences.

Faculty Seminars, Retreats, and Meetings

In one aspect of the program, a series of faculty seminars were held in which national or local educators presented papers on salient topics related to curriculum change. Most were open to the total faculty of the College of Education, project staff, and principals of project schools. Some of these topics are listed below:

- "Community Involvement in Teacher Education," Clovis Johnson, Director of Community Involvement, Model Cities Program, Houston
- "Competency-based Instruction," Wilford Weber, Syracuse University

- "Micro-Teaching" and "Differentiated Staffing," James Cooper, University of Massachusettes
- "Early Childhood Education and Teacher Education," Helen Hefferman, California
- "Issues in Teacher Education," Jack Frimier, Ohio State University
- "Community Education in England," Paul Boutebiba
- "Conceptual Curriculum Model," William Nesbitt, Houston
- "Vector Theory of Teacher Education Model," Joseph Carbonari, Houston
- "Human Relations Component in Teacher Education," Fred Proff and J. Don Boney, Houston
- "Personalizing Teacher Education," Oliver Bown, Texas R & D Center
- "Illinois State Program in CBE," Horace Aubertine, Director of Teacher Education, Illinois State University
- "Evaluating Teacher Competencies," Frederick McDonald, Director, National Commission on CBE and Director of Teacher Education, Educational Teaching Service
- "Humanizing Teacher Education," Howard Coran, Director of Field Experiences, New York University
- "Competency-based Certification as a National Movement," Theodore Andrews, Director of Multi-State Consortium on CBE and staff member, New York State

Education Department

."Sociological Perspectives of Teacher Education," David Potter, Senior Sociologist, Educational Testing Service.

Personal Assessment Feedback

The Research and Development Center for Teacher Education in Austin has developed and refined an assessment procedure for educators which aids individuals to better understand themselves, their goals and interests, their operating styles, and the relation of all this to their professional commitments. This two hour battery was administered to the 184 students in the CBE program, interpreted by trained counselors on the project staff, and discussed individually with students in one-to-two hour feedback sessions. The purpose was developmental, not clinical; that is, the assessments were designed to aid the individual in developing the interpersonal and teaching style which was most appropriate for him.

In addition, 27 faculty and about 40 graduate students, student teaching supervisors and other staff members completed the assessment inventory and received personal feedback, usually from a member of the R & D staff in Austin (thus eliminating the possible consequences if a colleague interpreted the tests). The Dean of the College of Education, Associate Deans, Departmental Chairmen, Project Director, and senior faculty were among those who participated in the faculty personal assessment.

To prepare for this extensive use of personal assessment feedback, five counselors trained with the R & D staff over a period of several months. Some training sessions were held in Austin, while others were held in Houston. The personal assessment battery includes several instruments which are computer scored and several which are projective in technique and require sensitive understanding by trained personnel. To provide this in-depth understanding, the Houston counseling staff read materials on the theory, rationale, and background of instruments. Then they worked with the R & D staff in a week-long conference during which time they scored and analyzed trial assessments and interpreted results. The process was repeated upon returning to Houston with amplified telephone transmissions for staff discussions.

To illustrate the extensiveness and nature of that training, the agenda for the May 3-4, 1971, conference follows:

9:00 - 10:30	1.	Review a case
10:30 - 12:00	2.	Updating assessment procedures
1:00 - 4:00	3.	Assessment feedback to student using videotape to record the process
	4.	"IPR" type of facilitating for the students and assessment from members
9:00 - 10:30	5.	Repeat of "IPR" as in items

		#3 and #4 with different students and assessment team members
10:30 - 12:00	6.	View videotape of teaching session, with C & I faculty, counselor, and student. Provide behavior feedback session.
1:00 - 4:00	7.	Questions about the process; plans for continued development of counselor staff.

The assessment instruments were administered to a pilot group of 30 non-project undergraduate students during the spring and summer, 1971. The protocols for those students were checked with R & D staff who made recommendations and suggestions concerning the analysis. The feedback on these tests provided a basis for improving the counselors' already-developed interviewing skills.

This assessment procedure has had tremendous impact on the College. Student teachers in the regular program who were having problems were tested and received counselor input and support. All master's degree counseling students have taken the battery, received personal feedback, and later learned to interpret results.

This personal assessment feedback system is described in greater detail in the Program Development section of this report.

Committees and Task Forces

Each department in the College has explored CBE on several occasions as part of their departmental efforts. One such exploration by the Department of Curriculum and Instruction (which includes over half of the faculty of the College) deserves attention in this report because of its impact on our faculty and because of its implications for others planning a competency-based program.

Classes were dismissed for one day in October, 1971, so that all faculty could participate in a retreat at a local motel. The purpose of the retreat was to explore CBE, its implications and issues; to surface faculty concerns; and to suggest next steps in the implementation process. Jack Gant, Florida State Department of Education, served as the process person for the retreat. Departmental faculty made presentations, chaired small groups, and acted as panel members in discussions. Approximately 70 persons participated, and at the end of the day they rated their commitment to CBTE as 8 on a 10 point scale.

An outline of program activities follows:

1. Each participant writes his questions about CBTE on a 4 X 6 card.
    a. He shares his questions with another person, then they join another pair.
    b. Groups of four participants discuss their questions, and pool them.

    c. They write their group questions on newsprint using a felt pen. Those lists are taped to the wall.

2. Each participant rates his own understanding of CBTE, from 1 as low through 9 as extensive knowledge, and writes this rating on a 4 X 6 card.
3. Establish groups of six persons with varying expertise in CBTE.
    a. Each person finds someone in his category of CBTE knowledge (1-4, 5-6, 7-9).
    b. Three pairs of participants meet together to discuss their questions on CBTE.
    c. Each person passes his questions to others in the group, reads what others have asked; they examine questions on newsprint.
4. General presentation on CBTE to group (show slide-tape by Wilford A. Weber; talk by someone; and/or examination by groups of CBTE materials.
5. Discussion of CBTE by small groups.
6. Each participant rates his commitment (not knowledge) to contributing to CBTE on a 1-10 scale with 1 low.
    a. Rating as of now.
    b. Potential commitment if certain things happen.
    c. List "ifs," and turn card in.
7. Discuss CBTE as a total group.

8. On a chart, describe the current and potential commitment of participants.
9. Discuss next steps in exploring and adopting CBTE.

Several committees worked over a period of months or years in studying and designing specific aspects of the program. A module design team composed of 18 faculty debated the merits of this approach, speculated on several formats and approaches, pressed for a philosophical basis for such design, and recommended an approach for college use. The Committee met weekly for several months in completing this task.

Five curriculum committees with a membership of 48 persons explored concepts and competencies in five areas of concern. These areas were: Personal and Professional Perception, Curriculum Decisions, Learning Ecology, Instructional Decisions, and Psychological Ecology. Their schedule of activities follows:

January 11, 1971	General Group Session followed by Task Force Meetings (orientation, parameters of project, identify time schedule)
February 5, 1971	Each Task Force complete description of goals for their curriculum area
February 11-12, 1971	Task Forces work together to compare, contrast, revise curriculum area goals

March 15, 1971	Each Task Force delineates goals in performance and exploratory objectives. Objectives ordered roughly into three areas: early in program, mid-program, late program; then clustered into related groups or components.
March 22, 1971	Objectives of each Task Force compared, contrasted

At two check points, February 11-12 and March 22, we analyzed the products of efforts to determine if important program objectives were attended to.

Two committees explored the parameters and elements which seem to be generic in teaching; i. e., to be integral for elementary and secondary teachers of different subject-matter areas. One was composed of representatives of the C & I Department while the second included both college and school personnel. Their recommendations have formed the basis for program design efforts.

A committee on CBE implementation functioned during 1972-73. Representing each of the departments, and composed of persons knowledgeable about CBE and in positions of leadership, the committee was charged with formulating long-range plans for CBE implementation in the College. The committee included the Dean, two Associate Deans, three Departmental Chairmen, Project Directors, and faculty; a total of eleven persons served. They met about 15 times during the year to consider schedules, plan activities, formulate CBE thrusts for the future, and take these recommendations to the faculty.

Both college and departmental faculty meetings have formally endorsed CBE and the college's thrust. The faculty committed themselves to full implementation of CBE in undergraduate education beginning in the fall, 1973. They committed themselves to a personalized approach to teacher preparation, including an extensive testing and counselor-feedback system. They revamped and approved new directions for teacher education, including a multi-cultural thrust. New courses were introduced and major changes have occurred because of committee deliberations and faculty decisions. These are discussed more fully in the sections on program development.

School Personnel, Parents, and Students

Teacher competencies were specified following several sets of conferences with representative teachers, parents, and students. About 25 teachers and eight university faculty worked three Saturdays to specify the tasks of teaching. These were then translated into a teacher competency list. This basic list has been revised on a number of occasions as analyses were made; those finally included in the program are described in the section on program development.

Six teachers of mathematics and the mathematics education faculty met on three Saturdays to consider the specific competencies of elementary teachers of mathematics and to make recommendations accordingly. Objectives in the elementary mathematics methods component reflect their input.

Eight secondary teachers reviewed and revised competency listings so that they were specifically applicable to Houston area secondary schools, as well as to the needs of current secondary students. For these meetings, teachers were released by their school districts (four districts participated). Their list of competencies has been published as a position paper by the project.

On two occasions, parents from six project schools met with the staff to articulate their perception of the characteristics of effective teachers. These discussions were very useful as they vividly focused attention on the perceptions of a very important school constituency. Parents emphasized the personal side of teaching; the teacher with warmth, understanding, and empathy for students; the need for flexibility; the need to understand others' value systems; and the need to make students feel important, liked, and successful. Parents recognized the school's primary role in society to develop skills of reading and mathematics, and to use these skills in problem solving; but they returned again and again to the quality of the teacher as a person.

The project staff taught elementary and secondary students on at least two occasions while their teachers participated in program design discussions at the University. Thirteen such classes were taught for each of the two half-day periods. During this time, the staff probed students' perceptions of effective teacher characteristics and competencies. Some useful insights were gained, especially from high school students. Teachers should, according to students, be enthusiastic about what they teach, try to make school fun and vary the routine, be fair and impartial in dealing with issues and problems, and try to see students' viewpoints. Students were pleased to be asked such questions, and they enthusiastically engaged in discussions. These school-related activities also increased the staff's understanding of schools simply by putting them back into a teacher's role; it caused subsequent discussions to be more reality oriented.

During the time when project staff were teaching, the teachers worked at the University examining project goals and program implementation procedures. All of these discussions and training sessions provided vital and viable input for the development of a teacher education program by broadening the perspective to include the several constituencies of schools in the process.

Crossover Study

A series of interviews was conducted by staff during November-December, 1970, with 60 teachers who had recently been assigned to schools predominantly composed of students of a race other than that of the teacher. These so-called "crossover teachers" provided insight into the problems and perspectives of teachers in new multi-cultural settings. Not so startling was the finding that black teachers in white schools and white teachers in black schools face very similar problems--they are concerned about parents and they have difficulty with classroom management and expectations for students.

To prepare for those interviews, the staff engaged in experiences to identify necessary questions to be asked during the interviews and interview techniques to be employed. The study and its results are more fully described in the program development section of the report.

More than 150 Houston teachers in the schools have worked directly with CBTE students during the past two years. They supervised students completing responsibilities as teacher aides and teacher associates, provided observational experiences; supervised internship; and reflected on program impact with project staff. Building in-service sessions were held on competency-based instruction, CBTE program elements, and responsibilities of teachers in the program.

Several prototype college classes in mathematics education and science education have been tested during the past three years with about 600 prospective teachers and 100 in-service teachers involved in the program. With each of these thrusts, the emphasis on laboratory and inquiry in the teacher preparation program appeared to impact the classroom strategies, organization, and content of the supervising teachers. These prototype tests are described in detail in the section on Program Development.

Institute For Cultural Understanding

The crossover situations for teachers--white, black, brown--presented problems for teachers in the Houston area because they were unfamiliar with the basic cultural patterns of ethnic groups other than their own. Recognition of a need for better understanding among different cultural groups prompted the organization of this institute. There was also the hope that the institute would provide impetus for the further development of a college program in cultural understanding for undergraduate education majors. Teachers who understand their students and are tolerant of attitudes different from their own are usually more successful in teaching.

The Institute for Cultural Understanding was planned as a three week session for June, 1971. An additional six Saturdays during the fall of 1971 were designated as follow-up sessions, but lack of funds precluded the latter meetings.

Personnel involved in conducting the institute were chosen on the basis of what they could contribute. The Project Director was Robert V. Haynes, Professor of History, Acting Director of Afro-American Studies Program, University of Houston. Co-director William Orman was Coordinator of Elementary Student Teaching, Prairie View A & M College and change agent from his college assigned to this project. Members of the teaching staff included: James Boyer, Assistant Professor of Curriculum and Instruction and Afro-American Studies Program; Robert Houston, Director of Teacher Center project; Charles Peavy, Professor of English and Afro-American Studies Program; and Thomas Woodell, Assistant Professor of English and Linguistics. Consultants for the Institute were: J. L. Brown, Director, Division of Education, Prairie View A & M College; Henry Bullock, Director of Ethnic Studies, University of Texas; Julius Gordon, Lecturer, Afro-American Studies Program and Pastor, Wheeler Avenue Baptist Church; Evelyn Strong, Professor of Music, Texas Southern University; Juan Trujillo, Professor of Education, Southern Colorado University, Pueblo, Colorado; and George Woolfolk, Professor and Chairman of the Department of History, Prairie View A & M College. Human Relation Trainers were: Donald Glad, dean; Robert Bates, leader; Mrs. Mary Jane Hulbert, leader; Mrs. Jan Burke, co-trainer; Mrs. Shirley Gibson, co-trainer; and Charles Granger, co-trainer. Houston Independent School District Representatives were Collin Briggs, Robert Cowgar, Miss Rita Rodriquez, and Frank Watson.

The first goal of the Institute was to develop group cohesiveness through an introductory human relations program to facilitate ease in accomplishing further purposes. The second aim was to develop community based experiences to allow participants to become meaningfully involved in the life-style of low income families. Having insight into a student's background could enable a teacher to understand reactions of students to various classroom routines. Teachers frequently do not realize how different a structured classroom situation can be from a student's home life in a low income family. Similarly, teachers from middle income groups frequently have no concept of the life style of high income families. The emphasis was placed more on the low income families as activities for the Institute were planned. Activities included working in Model Cities recreation programs, neighborhood theater groups, and community projects like HOPE Development and the Food Stamp Program; attending churches and court sessions; visiting bars and homes; riding in police squad cars; and working with school age children in non-school functions.

A third goal of the institute was to learn the formal aspects of different ethnic groups. Lectures and formal book study provided the material in this area.

The ultimate goal was to enhance the learning process for the students by the obviation of certain psycho-social impediments to the educational experience. Teachers were to have gained crosscultural insights that they would incorporate into their own personalities and teaching techniques.

Selection of participants was intended to provide enthusiastic, receptive learners who would in turn impart their knowledge to others. Principals of inner-city schools submitted the names of three candidates from their respective schools. Requirements for all candidates dictated that they a) have two to five years of teaching experience, b) teach in schools in low income areas, c) show interest in working with students from low income families, d) share insights gained from the institute with other teachers, e) participate in fall seminars as well as the summer program, and f) demonstrate leadership qualities. Thirty participants were chosen on the basis of these qualifications, after consultation with appropriate school district officials. At the conclusion of the institute, each participant received a stipend of $225.

Beginning Monday, June 7, 1971, participants and staff of the Institute launched the three week intensive study of cultural patterns and habits. After two days of group discussion and preparations, the group was sufficiently cohesive to make productive field trips. Six subgroups were assigned to different field trips. Field activities included visiting the county welfare office, the Shape Center, Purpose, Inc., HCCAA Headstart, the Food Stamp Center, a job bank, Juvenile Division, the city jail, T.E.C., C.E.P. Headstart Center, T.C.R.O. Office, Groovy Grill for lunch, Senate Grill for lunch, SER, juvenile courts (Family Law Center), Vocational Guidance Service, and Project HEP at the University of Houston. One group spent its entire day touring with a police sergeant.

Discussions the following day concerning the field trips were lively and provocative. Two speakers with small group interaction also were included in the day's activities.

Lectures, small group interaction, and large group discussions comprised almost every day's activities, although these were presented in varying orders, situations, and locations. Films and tapes helped enrich the program.

One of the highlights was a tour to a Black church on Sunday, June 13, 1971. Prior discussion of what to look for and expect had been led by Rev. Lawson the preceeding Friday. Monday, June 14, 1971, Rev. Lawson continued the church discussion with the added input of experience from the group.

Near the culmination of the Institute, emphasis shifted from the individual personalities to methods and materials that could be beneficial to both teachers and students. Exhibits presented new or unfamiliar materials to the teachers. Teachers were taught how to make and use larning modules for their classes.

Basically, the areas of endeavor in the Institute included learning group dynamics, understanding the realities of different communities, understanding historical and sociological aspects of minority communities, understanding worship procedures, becoming familiar with the cultures, and recognizing behavior patterns and attitudes of minority cultures, especially those of students from those cultures. Assessing all the information gained led into the types of curriculum and methodology needed for teaching.

Evolving from the Institute in Cultural Understanding were three films that could be used with prospective and in-service teachers. The films give insight into three aspects of the Black culture.

Albert--an 11 minute, 50 second film--was about a nine year old Black boy who was a perpetual discipline problem at school. To a new crossover teacher, Albert just seemed to be a troublemaker, but case study pointed out far greater problems for Albert than just wanting to be bad. The film purports to demonstrate the importance of understanding a child's background, his family life, and his physical condition.

Black Church--a 12 minute film--featured several views of Black church services. The ritual, customs, and procedures were explained. One particular emphasis was on the need for an emotional build-up to have a successful service in most churches, as well as the need for the pastor to be a father-type image. The attitudes found in church were pointed out as an integral part of the total make-up of the Black ethnic group. Seeing the film should provide a different aspect of the totality of the Black cultural group.

Rap Sessions at Yates--a 20 minute, 8 second film--featured a general discussion between a teacher and a group of Black students. The students were encouraged to be honest and sincere in explaining their attitudes toward crossover teachers. Students revealed their attitudes toward white teachers and why they preferred Black rather than white teachers. Value can be derived from the film by people who are interested in how some Black students think and verbally express themselves.

Participants were asked to evaluate the seminar after the initial three weeks. Each day's objectives were employed as assessment items in the instrument. The rating scale moved from 1 (least valuable) to 5 (most valuable). Each objective was rated in four areas--leadership, content, method, and professional usefulness. Two objectives reflected all ratings of 5--Community Services and Curriculum Materials Display--therefore, the assumption could be made that these two aspects of the Institute were perceived as the most valuable by participants.

Community Tours was rated the third most important activity. All four areas of rating received a 5 except method, which received a 4.

Many of the areas of work were allocated various other combinations of 4 and 5 in their rating areas. A few reflected a preponderance of 3, accompanied by a scant number of 2 ratings.

Only four general areas rated poorly. Group Dynamics had ratings of 2 in every area except leadership, which had a 3. Criticism stated that more direction was needed as well as more direct experiences in problem solving, even though it was a good process in decision making.

Black Music rated a 2 in every category. Comments revealed that it lacked depth, planning, and follow-up activities.

A 2 was listed in every area for Rationale for Teaching Multi-Ethnic Students. The chief complaint seemed to have been that the method of presentation lacked imagination.

Having a 2 in each of its four categories gave Curriculum Changes a low rating. Being too general--not definite enough--became the criticism behind the ratings.

Overall weaknesses of the Institute were suggested by participants. These included: a) too many consultants simply presented information instead of providing an opportunity for interaction; b) not enough time was allotted for relevant consultants; c) not enough information was provided on music; d) fewer speeches should be given with more activities; and e) no films on Mexican-Americans were presented.

Overall strengths outnumbered the weaknesses. Sometimes these appeared to be contradicting each other. The strengths listed were: a) participants were given many tools to take to their schools; b) a very good cross section of consultants from different cultures was provided; c) excellent resource materials were provided; d) participants gained an awareness of what happened in cross-cultures; e) consultants were excellent; f) interaction within the group proved to be very strong and cooperative; g) management of the Institute was excellent; and h) films were excellent.

Answers to the questions pertaining to which concerns of participants were met included the following responses: a) information and ideas about varying cultures and behaviors; b) sources of services available in local communities; c) insights gained about other ethnic groups; d) more enpathy for other ethnic groups; and e) ways of dealing with non-standard English in the classroom. Concerns not met included: a) opportunity to share more personal experiences; b) greater knowledge of classroom discipline techniques; c) more information about Mexican-Americans; and d) assurance of utilization of services as district change agents.

Suggestions for improving any similar institutes in the future revealed the need for: a) additional tours; b) limit each institute to the study of one ethnic group; c) more demonstrations and fewer lectures; d) giving college credit; e) not including stipends in regular pay checks; and f) helping teachers learn how to improve relations between people of different cultural backgrounds.

Studying the evaluation forms reveals several overall values of the Institute. Participants evidently had enriched their attitudes and teaching abilities. Even though the Saturday workshops in the fall were not held because of lack of funds, Institute participants were able to share experiences from the summer with their colleagues.

Two weaknesses appeared to be well defined. The first is the lack of sufficient time to cover as much information as participants might want. The outstanding weakness lies in the fact that all ethnic groups did not receive sufficient study during the three weeks.

The Institute provided a training experience for 30 teachers, supported the development of 4 films, provided for video-tapes of all lectures and activities, prototype tested activities that might be appropriate for prospective and in-service teachers, and permitted several consultants to interact on needs related to cultural pluralism in schools.

College Students

Graduate Students. Six advanced graduate seminars in competency-based education were held during the three-year period. Approximately 100 students were enrolled in these 3-hour seminars. The seminars explored basic concepts of CBE, issues involved with the movement, current status of efforts, the elementary models, micro-teaching, and implementation procedures and constraints. Development of instructional modules and the instructional design process were also studied. The seminars were competency-based with students permitted to specify many of the competencies to be demonstrated. In addition, a number of graduate students participated in project developmental activities.

Undergraduate Students. Sixty-four students entered the first experimental, totally competency-based program in 1971. Most were college juniors with two years required to complete their professional education program. In the fall of 1972, 84 new students entered the program in a second and revised format. They were joined in January, 1973, by 37 people. The latter step was taken to test the feasibility of adding new students to existing groups. About half of these students were prospective elementary teachers and half prospective secondary teachers. Elementary teachers completed equivalent of 30 semester hours credit in competency-based instruction while secondary majors completed 18-24 semester hours. Thus, their involvement was extensive. A description of the program and students' reaction to it are described elsewhere in this report.

Recruitment and Drop-Out Among Project Students. Originally program developers had hoped to recruit some 72 students for the first years of implementation. It was anticipated that there would be an equal split between black, white, and Mexican-American students and, in addition, an equal split between elementary and secondary students.

Because we were recruiting students whom we projected would provide the best chance of success in the venture, it was decided to select recruits from applicants instead of accepting all applications. The following criteria for student selection were stated:

1. The completion of a minimum of forty-five semester hours of college credit;
2. A grade point average of 2.5 (on a 4 point scale);
3. The completion of no more than one professional education course;
4. A commitment to working in an experimental program;
5. An interest in working with pupils of all races, colors, creeds, and socio-economic levels.

Recruitment procedures included, (a) contact by mail with all students who would have completed 45-75 semester hours by fall, 1971, (b) a special printed brochure describing the program, (c) two special orientation sessions which included a 22-minute slide-tape overview of the program, (d) small group discussion with faculty about the program, (e) individual interviews with each candidate, (f) selection and notification, and (g) several follow-up letters which provided additional information to students. Community college counselors in the region were appraised of the program; several of their students were identified and selected. Of the total eighty-five applicants, sixty-five were selected, and one subsequently withdrew.

Of the sixty-four students participating in the competency-based program, thirty-eight were secondary education majors and twenty-six were elementary majors.

Houston program developers missed in projecting number (64 instead of 72). We also missed in projecting the levels of interest and ethnicity of students.

Table 2.2

Number of Students in First Pilot Group By Race, Sex, and Major

		Major										
		Elem.	SECONDARY								TOTAL	
			English	Social Studies	Math	Foreign Language	Home Economics	Speech	Health, Physical Ed.	Business Education		
Black	Male	0	0	2	0	0	0	0	0	0	2	4
	Female	1	1	0	0	0	0	0	0	0	2	
Mexican-American	Male	0	0	0	0	1	0	0	0	0	1	5
	Female	1	0	0	1	2	0	0	0	0	4	
White	Male	0	0	1	4	0	0	1	0	0	6	55
	Female	24	13	3	2	2	2	0	2	1	49	
TOTAL		26	14	6	7	5	2	1	2	1		64

It must be noted here, however, that the sample selected for the pilot program does not differ considerably from the percentages in the College of Education. The College does not have a large percentage of Black or Mexican-American students.

As part of the planned set of experiences, students spent the first several weeks rotating from elementary to secondary schools and making decisions about the school they would like to choose. In this process three secondary prospects changed their minds and became elementary prospects. After 8 weeks in the program the count remained at:

Elementary Education Majors -- 29

Secondary and All Level Majors -- 35

During the experiences of the first semester, four students dropped from the program. Students deselected themselves for a variety of reasons:

2 students dropped because the curriculum set for them in Home Economics took "Too much time;"

1 student dropped out of school because of personal problems; and

1 student dropped because he did not see the "relevance" of the program.

At a second set of experiences (second semester, 1972 Spring) 6 other students had dropped the program:

3 dropped out of school totally;

2 moved from the Houston area; and

1 cited staff-student difficulties as irreconcilable.

It was at this juncture that by comparing the progress of students in the program with the expectancies set by both the students and the program developers, it was noted that some students were not progressing at any reasonable rate. CBTE programs are supposed to be self-paced, but we found out at this point that some students had a most difficult time in making decisions and setting deadlines if there was no one around setting them for them. Two decisions were reached here:

1. It was decided to develop instructional activities (in the form of modules) which aid students who have difficulty in self starting. In some cases we projected that it might not be too late for some students to complete the program.
2. In other cases we felt that individual conferences would have to be called for students to get them to set deadlines for completion of the work. At these conferences several reasons were given by the student for not completing work.
   a) the experience in schools was such that they spent more time in schools than recommended and this took away from their work back on campus;
   b) since there were deadlines in other courses they were taking, the students met those deadlines at the expense of non-deadlined CBTE work.

Of the eleven students who were identified as non-self-starters, eight students decided to deselect from CBTE. Of the eight, two entered the regular program for teachers at University of Houston; the other six are not in education to our knowledge. The remaining three students later completed the CBTE program. Before the start of the third semester (Fall, 1973), one additional student dropped the program. She decided to graduate as a part of the regular program.

The remaining 44 students completed or will complete the program in January, 1974. Four students completed in January, 1973. Five students will not complete their program until January, 1974. One participant postponed her teaching experiences because of pregnancy.

Recruitment and Drop-Out Rate For the Second Experimental Group. Original plans called for the developed program to be prototype tested during 1971-1972 and that another larger group of students would start the modified program in 1972-1973. This latter group has been supported primarily by the Department of Curriculum and Instruction.

Recruitment procedures for the second group were similar to those previously described. A total of 144 students was projected to work with a team of four faculty.

A total of 84 students started the program in the fall, 1972; another 37 started the program in January, 1973.

Table 2.3

Number of Students in Second Pilot Group By Race, Sex, and Major

		Major				
		Elementary	Secondary		TOTALS	
Race	Sex		English*	History		
Black	Male	0	0	0	0	2
	Female	2	0	0	2	
Mexican-American	Male	0	0	0	0	0
	Female	0	0	0	0	
White	Male	0	6	0	6	82
	Female	64	10	2	76	
TOTAL		66	16	2		84

*In an attempt to best use team faculty members, recruitment was primarily limited to English and Language Arts, the specialty of the secondary team members.

Table 2.4

Number of Students in Second Adjunct Group By Race, Sex, and Major

Race	Sex	Major			TOTALS	
		Elementary	Secondary			
			English*	History		
Black	Male	0	0	0	0	0
	Female	0	0	0	0	
Mexican-American	Male	1	0	0	1	3
	Female	2	0	0	2	
White	Male	3	3	0	6	34
	Female	20	7	1	28	
TOTAL		26	10	1		37

*In an attempt to best use team faculty members, recruitment was primarily limited to English and Language Arts, the specialty of the secondary team members.

The group drop-out numbers and causes for the second and adjunct groups can be identified by examining the data below.

10 Dropped out of school because of personal problems

2 Dropped the program because of stated dissatisfaction

3 Dropped out of teacher education-continued university with another major

3 Dropped the program because of time conflicts, continued with teacher education as part of regular program

1 Dropped--reason unknown

1 Was dropped from program--incompatability with other students/school personnel/staff.

Total Dropped = 20

The percentage rate of retention for the CBTE program was higher than the best guesses of administrators in the College of Education. No such records are kept on regular at University of Houston, mainly because, as a commuter school, students drop in and out quite often. Thus there were no comparable groups to assess whether or not CBTE drop-outs were higher or lower than in conventional programs.

Summary

The number of persons involved in the project over the past three years has been impressive. While the major focus was directly on curriculum improvement, those involved were provided an opportunity to become familiar with the issues and scope of the CBE movement, to input into program design, and to develop important programmatic materials and resources. The following table summarizes the extensiveness of direct participation in the project.

Table 2.5

NUMBER OF PROJECT PARTICIPANTS BY ROLE CLASSIFICATION AND TYPE OF PARTICIPATION

Type of Participation	Role Classification University (Education and Arts and Sciences)	Schools and Ed. Service Center	Community	Graduate Students	Undergraduate Students	Public School Students
Board of Directors	5	5	2	1		
Project Staff	21	4		15	2	
Faculty Released by College	16			3		
Committees, Task Forces	72	52	13	5	9	
Seminars or Workshops	105					
Prototype Test Classes	15				300	1300
Advanced Graduate Class	3	4		100		
CBTE Pilot Groups	27	153	2	10	185	5000
Total	264	218	17	134	496	6300

Table 2.5 includes some duplications when reading columns vertically, although duplications among the three project years are eliminated. When duplications are eliminated, one might classify individual contributions by the extent of participation in project activities.

Table 2.6

NUMBER OF PROJECT PARTICIPANTS BY EXTENT OF PARTICIPATION

Extent of Participation	Number of Participants
Intimately involved	77
Multiple-meeting Committee on training session task force	240
Student in 1 or more CBE university class	584
Single-session seminar or workshop	130
Elementary or secondary students	6300
Total	7331

IMPACT ON THE STATE

Change Agents

During 1970-1971, Professor Bill Orman of Prairie View A & M College was assigned to the Teacher Center staff, then he returned as the designated Change Agent in Competency-Based Teacher Education for his college. While in Houston, he directed the Crossover Study and wrote the final report, co-directed the Institute on Cultural Understanding, and participated in all project activities.

The Houston Teacher Center has continued to support Professor Orman and the Prairie View faculty in every way possible. Examples of the efforts are:

Keynote address for fall faculty conference, 1971;

Planned one-week faculty retreat in January, 1972;

Dean Robert Howsam spoke to faculty, March, 1971;

Robert Houston spoke to faculty, May, 1971;

Three staff held 4-day module development conference, June, 1972;

Three addresses, faculty conference, fall, 1972;

Three faculty planned with their faculty committee on implementation procedures, 1972-73;

Consulted on support project from Teacher Corps, 1971-72 and again 1972-73;

Provided copies of all materials in the Houston Teacher Center; and

Involved Professor Orman and several members of the Prairie View faculty in various Teacher Center projects and activities.

During 1971-72, Professor Juan Solis of Pan American College was the assigned Teacher Center Change Agent. During his year in Houston, he participated in all Center activities and contributed to the program's design. He was involved particularly in videotape feedback to prospective teachers, intern supervision, and module development. He made several consultation trips to Pan American to orient the faculty and to initiate planning activities for the following year. In turn, several members of their faculty visited our campus.

Following his year in Houston, Professor Solis returned to Pan American where he provided leadership in their program development. On several occasions, Houston faculty have consulted at Pan American University on CBTE and graduate programs.

The purpose of this important part of the program is to acquaint the change agent with competency-based education, involve him so he is comfortable and knowledgeable, help him plan for implementation on his campus, and provide support resources (human and material) in that process.

State-wide Conferences

While not specifically a part of this particular project, the faculty of Houston were responsible for two conferences during 1973 for university faculty throughout Texas. The first conference was held during two days in February and focused on the salient concepts and issues of CBE. A Guide to Competency-Based Education[1] was written for the conference, in which more than 100 Texas educators participated.

A three-day conference was held in late April for over 100 Texas teacher educators. A program development simulation was written for that conference which focused on implementation procedures.[2]

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[1] Wilford A. Weber, James M. Cooper, and W. Robert Houston, A Guide for Competency-Based Education (Westfield, Texas, 7.7090: Competency Based Instructional Systems, P.O. Box 90627, $3.00).

A one-and-one-half day conference on CBE was held in March for about 100 members of the Texas Education Agency professional staff. CBE concepts, issues, and implementation, and their implications for the TEA staff and the Texas Education Agency were included in that conference.

Teacher Center staff presented papers for the state TEA conferences during 1971 and 1972, Texas Teacher Education conference in 1972 and 1973, and were responsible for the organization of the 1973 conference on CBE. They have worked with several Texas colleges and hosted many others on visits to Houston. They have been active on state steering committees and task forces dealing with improved certification including the State Steering Committee for the Teacher Center Project, Executive Committee of Texas Educational Renewal Center, and the State Competencies Board.

NATIONAL IMPACT

Visitors, Speeches, and Conferences

With a program and project as pervasive and innovative as this one, the impact extends beyond the local area and the state to the nation.

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[2] W. Robert Houston, Norman Dodl, and Wilford A. Weber, Competency Based Program Design: A Simulation (Westfield, Texas: Competency Based Instructional Systems, $3.00).

In January, 1971, the College of Education moved into a new facility which was designed to reflect modern architectural and educational concepts. Open spaces and open classrooms, an extensive Learning Resources Center; carrels and laboratory rooms, and a Kiva attracted hundreds of visitors. Many have come to see how CBE can be implemented in a university, and what the implications are for facilities. It would be no understatement that thousands of hours of faculty time have been devoted to discussing CBE with visitors over the past three years. A sampling of 10 weeks of the Project Director's calendar during the past year revealed that he had averaged four and three-fourths hours per week with educators visiting this campus. This amounts to nearly 20 percent of his available school time!

These developmental efforts have been reported to the profession through speeches at the:

.National Council of Teachers of Mathematics, 1971, 1972, and 1973 (3 speeches)

.American Association of Colleges for Teacher Education, 1972, 1973

.American Educational Research Association, 1973 (2 presentations)

.Association of Teacher Educators, 1973

.National Teacher Corps Conference, 1970, 1972

.Association for Supervision and Curriculum Development, 1972, 1973

.Texas Society for College Teachers of Education, 1972, 1973

.Phi Delta Kappa, Houston Chapter, 1970, 1971

.Phi Delta Kappa, Ft. Worth Chapter, 1973

.Six regional training conferences supported by Teacher Corps, 1971-72 (Atlanta, Los Angeles, Houston, Washington, Philadelphia, and New Orleans)

.Seven regional training conferences supported by the American Association of Colleges for Teacher Education, 1972-73 (Salt Lake City, St. Louis-2, Dallas, Boston, Atlanta, and San Diego)

.National Council of Teachers of English, 1973

.Association of Childhood Education International, 1973

.Texas Association of Homemaking Teachers, 1973

.Keynote speeches for state conferences in Nebraska, 1973; Kansas, 1972; Oklahoma, 1973; North Carolina, 1973; Georgia, 1972

.Speeches or workshops for several colleges, including: University of Maine, City University of New York, Western Carolina University, University of Georgia, Augusta College, Florida State University, University of Florida, Grambling College, Southern College, Wichita State University, Prairie View College, Texas Southern, Bishop College, University of Wisconsin--Stevens Point, State University of New York--

Buffalo, California State College-San Diego, California State College-Hayward, University of Nevada, Utah State University, and Northern Arizona.

In addition, faculty representatives participated in TTT Cluster conferences in Chicago, St. Louis, and Washington, D. C.; visited the Learning Center at Dallas Baptist College, Far West Regional Laboratory, programs in Washington, and Dunbar Elementary School in Dallas. The staff has been actively involved as members of the Coordinating Committee--National Commission of Performance-Based Education; Leadership Training Institute; and Consortium of CBE Centers. They have written several journal articles on the topic (Educational Technology, Journal of Teacher Education, Phi Delta Kappan, Arithmetic Teacher) and contributed to several books.

Developing Instructional Modules

In 1971, a training system, Developing Instructional Modules was designed and written by six project staff members.[3] The system included:

a) 188-page worktext

b) four slide/tapes

c) five audio-tapes

d) director's guide

The purpose of the system is to facilitate the writing of instructional modules. It includes seven basic sections:

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[3] W. Robert Houston, Loye Hollis, Howard Jones, Don Edwards, Ann Pace, and Sarah White, Developing Instructional Modules (Houston: College of Education, 1972).

a) write criteria-referenced objectives, b) classify educational objectives, c) design flow charts, d) specify enabling activities, e) develop assessment procedures, f) outline module and component formats, and g) identify module development process.

The worktext and the supporting audio-visual package have been made available at cost through a special university account to institutions throughout the country. About 110 audio-visual packages and 6000 worktexts have thus far been distributed in this manner.

In addition, more than 600 persons in 25 workshops have used the system under direct supervision of a member of the staff. It has proven to be a very useful tool for those institutions embarking on CBE program design.

National Conference

In May, 1971, a national conference on CBTE was held in Houston at the newly opened College of Education. Over 100 educators from across the country participated in that conference, giving papers, engaging in seminars and discussions, reviewing resources and papers of others, and exchanging information on implementation. The conference was supported by a grant from the U. S. Office of Education to the Texas TTT Project with Houston staff organizing and administering the conference.

Eight papers were written by experts in various areas related to CBE--objectives, consortia, certification, assessment, implementation, etc. These were published by Science Research Associates in 1972 as Competency-Based Teacher Education: Progress, Problems, and Prospects, edited by W. Robert Houston and Robert B. Howsam.

Through these writing and speaking endeavors, visits to the project, conferences, and developmental activities, the project has provided important input to the profession as well as a prototype competency based program. This impact will likely continue as the college becomes even more deeply involved in CBE.

SECTION 3

IMPACTING INSTITUTIONS

A project of the scope and intensity envisioned herein requires a genuine collaborative effort by a number of different institutions, each making his own distinctive contribution. Involved in the project were:

- College of Arts and Sciences, University of Houston
- College of Education, University of Houston
- Houston Independent School District
- Regional Service Center IV, one of 20 centers established by the state to provide services to local school districts
- Citizens of Houston, representatives of the cultural sub-groups served by schools which are involved directly in the project
- The organized teaching profession

Each institution, organization, and group was involved at all levels in the project--planning, operation, and evaluation. A genuine partnership results as inputs vary among consortium members depending upon expertise and project requirements. In the following paragraphs, each of these institutions is described briefly.

PARTICIPATING INSTITUTIONS

Houston Independent School District

The sixth largest school district in the United States is dedicated to meeting the needs of all children through a variety of programs. More than 241,000 students are enrolled, with 143,000 in elementary schools, 57,000 in junior high schools, and 41,000 in senior high schools. These students are enrolled in 225 schools; 170 elementary schools, 31 junior high schools 5 junior-senior high schools, and 19 senior high schools.

Ten schools were identified as clinic sites for the project. During the first two years, six schools participated, while four others were added in 1972. These schools were utilized for all field aspects, including faculty inservice, study of crossover teaching, working with the community, involving teachers in program development, and testing new programs. The staffs of these schools worked with members of the project staff as they explored CBTE, and as they worked with prospective teachers in the program. In the original project intent, in-depth teacher retraining was designed, but subsequent fiscal restrictions led this and other project goals to be modified as priorities had to be established.

The operation of these schools remained the function of Houston Independent School District. Coordination of university-school interaction experiences was provided by Dr. Dolores Green and Dr. Eileen Wuycheck, who were assigned half-time to the project staff by the Superintendent, and among other responsibilities, served as liaison between the Superintendent's office and the project.

Identification and selection of project schools. At the time the original proposal was submitted, six schools which seemed to meet project specifications were identified. With the beginning of school, revision of this list was necessary; a new Superintendent had joined the district; students had been reassigned in many schools; a court ordered school-pairing plan had been implemented; and about 4,000 teachers had been reassigned or employed so that the racial balance of each school would reflect that of the city as a whole.

Criteria used in identifying three elementary and three secondary schools for the first year included:

1. To represent all crossover relationships, schools should include a wide range of socioeconomic communities;
2. Minority races represented;
3. Schools where the project could provide leadership; and
4. School administrators receptive to cooperative ventures and interested in teacher education.

Representatives from the Houston educational consortium (including Superintendent George Garver; Dean Robert Howsam; Associate Dean Loye Hollis; Project Director Robert Houston; Houston Teachers Association Executive Secretary Charles Kuzminski; Region IV Service Center Representative Tom Pate; and other Houston School District personnel met on three occasions to delineate the task, identify criteria, select schools, and meet with recommended school principals. All six schools accepted the invitation to participate, and along with Dr. Garver, expressed a commitment to support a close working relationship in improving teacher preparation. In the following weeks, the staff began regular work in the following six schools:

School	Type of Community Served
Milby Senior High School	Population Varied
Woodson Junior High School	Predominantly Minority
Waltrip Senior High School	Predominantly Privileged
De Zavala Elementary School	Predominantly Minority
Red Elementary School	Predominantly Privileged
Turner Elementary School	Predominantly Minority

With the emphasis on crossover teaching, schools were selected to provide varying and unique contributions to project goals. Further, each had unique needs to which the project might contribute. In 1972-1973, four schools were added to the consortium. These extended the range of curriculum emphasis including open concept schools and offered students an enriched selection for visitation and teaching. This occurred at the time when the number of undergraduates in the program was more than doubled, so additional resources were needed to accomodate their needs for field sites.

These four schools were:

Ashford Elementary School	Predominantly Privileged
Brock Elementary School	Predominantly Minority

Reagan High School	Population Varied
Jersey Village High School, Cypress-Fairbanks	Population Varied
	Population Varied
McArthur High School	Population Varied

The project attempted to model an organization, procedures, and relationships between a university and a public school district which might form the basis for future inter-institutional relations. Teachers provided significant input into the developmental process while the university provided some inservice education. As the project terminates, this exchange of resources is hypothesized to become more intense.

A clinical supervision model has been designed by Audrey Graves, working with Robert Houston, James Cooper, and Wilford Weber. This is designed to help teachers who are supervising prospective teachers. In addition, a number of inservice modules are being written to support the Teacher Competency Inventory. While these three projects (clinical supervision, modules, and TCI) were not part of this project, they were spawned by it and will contribute to further inter-institutional arrangements. The latter two serve teachers by providing a self-assessment instrument and some individualized instructional packages for further study. Improving the competency of teachers through inservice education in teaching strategies and in clinical supervision should lead to an improved preparation program for undergraduates.

University of Houston--Education

The second institution in the consortium was the University of Houston. Of the more than 25,500 students enrolled in the University, many are in curricula leading to a teaching career. Two colleges within the University are particularly concerned with teacher education--the College of Arts and Sciences and the College of Education. Primary responsibility for the project resided in the College of Education.

The project itself proceeded from the efforts of the College of Education over the preceeding several years. The project was central to the entire thrust of teacher preparation and fully consistent with continuing commitments. Over a period of nearly five years the College of Education faculty, with strong institutional support, had been pursuing its purpose of developing an innovative teacher education program which would depart drastically from the usual.

The process was facilitated by a new building for Education. The building was an excitingly different facility which had been designed specifically for modern and innovative approaches to learning and teaching. The open concept, prevalent in so many modern elementary and secondary schools, was incorporated into the building design. Laboratory spaces, a large learning resources center, one-way glass enclosed observation rooms, a multi-purpose Kiva--all were designed to support instruction through a design based on educational principles.

The organization supporting the CBTE program in this project was conceptualized as a teaming process. A team of faculty were assigned to work with a group of prospective teachers. This organization tended to lessen the impersonal nature of college while encouraging individualization of programs. But it did cause the University to make different commitments to faculty assignments. Teams worked together for two years, learning to differentiate assignments among themselves and to employ their individual areas of expertise.

Resources were reallocated by the Department of Curriculum and Instruction to design and to test the CBE program. Inter-departmental assignments to teams were tested. Inter-departmental development teams designed programs and worked out administrative arrangements.

The college is exploring a matrix management system for all efforts. Through this approach, resources would be allocated according to proposals by program or project-like groups. Such groups would submit proposals, receive resources (human and fiscal), and be judged on the basis of results. A discrepancy analysis which measures results against objectives could be employed. In this management form, faculty would be nominally assigned to a department but functionally part of one or more "projects." While this has not been actualized, it is being considered and grows directly from project efforts. Further, the concept is in concert with the emphasis on objectives which undergirds CBE.

Arts and Sciences

While respecting the importance of educating teachers, the Arts and Sciences faculty on the Houston campus has been reticent to support existing approaches to teacher education. Few have desired to engage in cooperative projects. Contact was primarily at the informal level, with two or more faculty working together on a project. This has changed little during the three project years, and with the state-wide concern of Arts and Sciences faculties due to the Texas Education Agency mandate for competency-based certification, may become more strained in the coming years. Their concern grows from that portion of the regulation which specifies that Arts and Sciences courses for teacher education majors must be competency-based. They believe a State Agency should not be permitted to dictate the instructional approach colleges are to use.

The Associate Dean of Arts and Sciences, Dr. James Tinsley, was an active member of the Board of Directors for this project. Dr. William Linsley, Associate Professor of Speech, was employed half-time in the project during its first year and Dr. Thomas Woodell, Associate Professor of English and socio-linguistics, during the last two years. Each worked on program design and explored ways in which the two colleges could cooperatively work on teacher education.

Several individual faculty in Arts and Sciences have reformulated their courses using the competency-based approach. These include German, art, and English. The Afro-

American Studies Center jointly sponsored the Multicultural Institute during the summer 1971 (described more fully in Section 2). These and a number of other strategies have been employed to encourage a closer working alliance and to effect a more consistent teacher preparation experience.

Regional Service Center

The Region IV Education Service Center, one of 20 such Centers in Texas, was established by the State Legislature as a function of the Texas Education Agency. Services are provided in Region IV to more than 500,000 students and 25,000 professional staff members in 56 public school districts in a 7-county area. Services provided by the Regional Center in Houston are categorized by components and include: (1) media, (2) electronic data processing, (3) special education with pupil appraisal, (4) consultative services, and (5) manpower development.

In this project, the Service Center provided some computer and media facilities and specialized consultant services. Dr. Tom Pate, former school superintendent and Assistant Executive Director of the Center, was employed half-time in the project during the first year and was replaced by Miss Peggy Chausse the second year, and as part of their responsibilities, coordinated these efforts.

Community Involvement

The six schools in the project were selected during the first year to provide a range of community settings. In each school, a Community Council was organized. In its original conceptualization, each council would meet regularly with project staff and school teachers, initiate recommendations for improving teacher education, and react to proposals in the project. It was felt that organizing six Councils rather than one for the entire city would permit wider utilization of community agents and promote more comprehensive identification of specific community needs. The Community Councils could assist to establish procedures in which prospective teachers might have actual and genuine experiences in the community, and through these experiences become more sensitive to community needs and values. Such experiences could become the basis for better understanding of students being taught.

The Community Councils also were conceptualized as the agencies with responsibility for disseminating information in the communities about teacher preparation programs; thus, they were interpreters of the project, CBTE, and teacher education.

Membership in the Six Community Councils was determined by these criteria:

1. The council as a whole represents the various community elements in the school;
2. Members are interested in improving education;
3. Members have a child in school; and
4. Members are willing to spend time working to improve teacher education.

In each school, an effort was made to stimulate local community action, and without exception such efforts were ineffective. A few persons participated in one or more meetings, but without a battle cry, without a cause, each soon dissolved. Policies, procedures, and curriculum for the school were relatively important to some; teacher education seemed to be far too obscure and detached for people to become excited about. Several Community Councils limped along for months, fired primarily by the same persons who were leaders in the PTA, but by the end of the school year, none were evident.

Involving community in teacher preparation has been a hallmark of those advocating parity. For many federally supported efforts, it was a requirement. This seemed to be a viable way to refocus American education, to reshape it for greater relevance. It seemed to be a way to realign the power structure, to put education back in the hands of the people. Our experience would question the assumptions upon which this thesis rests. For the people involved in this effort, teacher education was not a primary priority, nor one in which they wished to devote their efforts.

Organized Teaching Profession

Teachers were involved in all aspects of the program. In the project schools, they were actively involved in formulating and developing the program for prospective teachers. Some of the ways in which they assisted include:

1. Identifying salient features they deem important in a teacher education curriculum;
2. Suggesting vignettes for use in simulation episodes;
3. Actually modeling episodes;
4. Reacting to project proposals;
5. Permitting staff to observe and teach in their classes;
6. Relating their perceptions of crossover assignments;
7. Specifying the tasks of teaching;
8. Serving as observation models;
9. Supervising prospective teachers during internship and pre-internship; and
10. Writing instructional modules.

In addition to the contributions of teachers in the ten project schools, the Houston Teachers Association, representing nearly 9,000 teachers, has participated actively in several areas of project development. A contention of the project staff is that the profession can and must become more deeply involved in teacher preparation. Both the Executive Director, Mr. Charles Kuzminski, and the Associate Executive Director, Mrs. Norma Kacen, helped to identify and select the original six project schools. When Mr. Kuzminski accepted a Washington assignment and Mrs. Kacen became Executive Director, the close and cooperative relationship between the leadership of the organized profession and the project in the design of teacher preparation continued. This positive and professional relationship facilitated the development of a program and the processes in that development. The ideas and stimulation of this professional group could indeed be modeled by others striving for an improved profession.

BOARD OF DIRECTORS

A Board of Directors, representing the various segments of the education community, was responsible for the direction of this project. The Board was composed and organized as follows:

Dr. Robert B. Howsam, Dean of the College of Education, Chairman

Dr. George Garver, Superintendent of Houston Independent School District

Dr. James Tinsley, Associate Dean, College of Arts and Sciences, University of Houston

Dr. Thomas Pate, Region IV Service Center

Mrs. Christine Williams, Community Representative and President of the Turner Elementary School PTA

Mrs. B. G. Tristan, Community Representative whose children attend Milby High School

Dr. Dolores Green, Houston Independent School District

Mr. Walter Forster, Bellaire High School, representing the Houston Teachers Association

Dr. James Boyer, College of Education, University of Houston

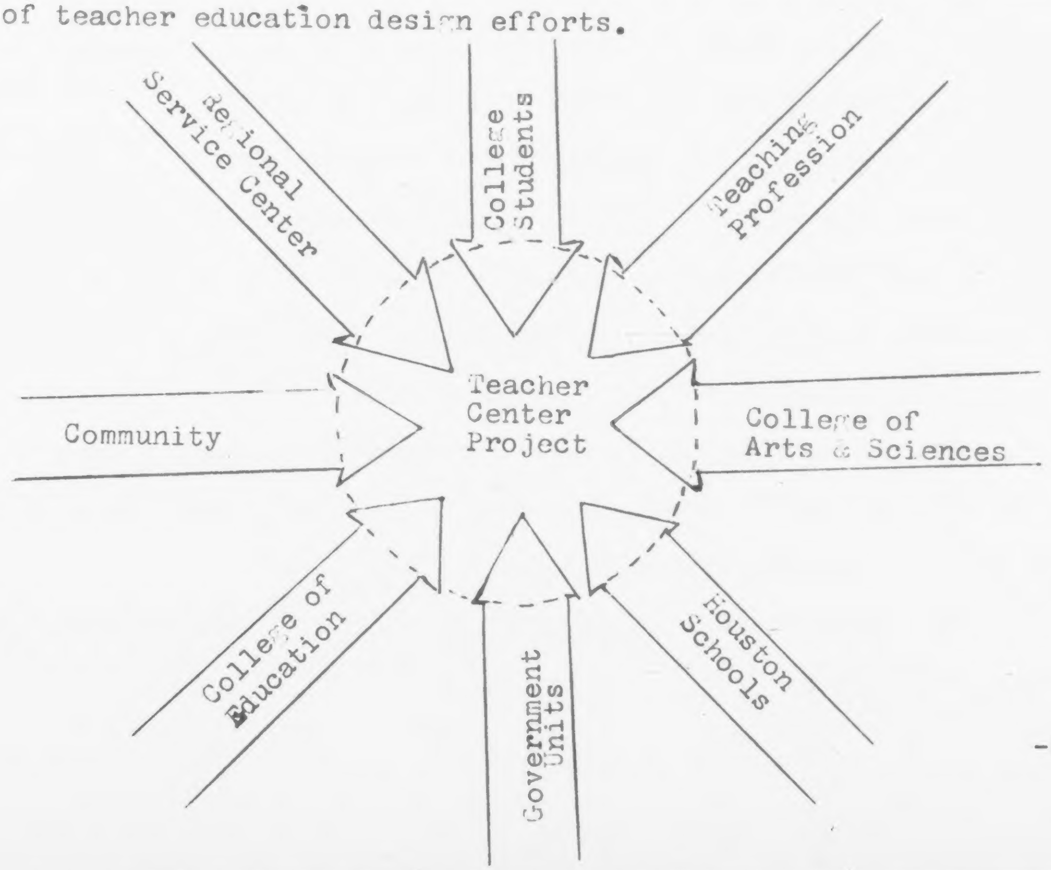
Mr. Lawrence Marshall, Principal of Douglass Elementary School, 1970-71; Area Superintendent, 1971-present

Mr. Gordon Cotton, Principal of Waltrip Senior High School, 1970-71; Area Superintendent, 1971-present

Mrs. Jane Flavin, Student at the University of Houston

Dr. W. Robert Houston, Project Director

The project was organized so as to obtain input from a wide range of persons and institutions, yet maintain accountability for various actions taken. The figure below is intended to convey the dynamic interactive nature of the relationship between each of the concerned groups and the project. While each element provided input to the program, as identified by the arrows, it also received the benefits or outputs of teacher education design efforts.


Regional Service Center
College Students
Teaching Profession
Community
Teacher Center Project
College of Arts & Sciences
College of Education
Government Units
Houston Schools

CHANGE AGENTS

The role and training of Change Agents from Pan American University and Prairie View College has been described elsewhere in this report. One faculty member from each institution spent one full year on the University of Houston campus before returning to his own campus as a Change Agent. For two years he was supported half-time by the project to implement competency-based education in his institution.

Project staff supported these efforts on a personal basis, particularly, with Prairie View which was nearby. However, increased institutional change and collaboration has not resulted from this endeavor. The three universities have continued to function independently with no formal or informal agreements for joint efforts toward program design and testing.

If such collaboration contributes to the collective thrust, then some agency of the State which is responsible for higher education should build into budgeting and administering procedures a process for action. Independent institutions are unlikely to give up a measure of their independence unless they perceive a greater benefit from such action.

When personnel are exchanged for training or other purposes, they should be perceived by the sending college as persons of power and prestige. The lot of the Change Agent is not easy; for one without direct access to the seat of power, it may be impossible.

RESEARCH AND DEVELOPMENT CENTER FOR TEACHER EDUCATION

A collaborative relationship with the Research and Development Center for Teacher Education was established during the first project year and continued throughout. The programmatic and training outcomes of this relationship are described elsewhere.

For the R & D Center, this project permitted the testing of ideas, materials, and training systems. As described in one of their recent publications, Personalized Education, Houston was a primary trial center. Data from instruments and interviews formed the basis for certain research carried on by the R & D Center.

For Houston, the R & D Center provided expertise, training, and instruments in using the Personal Assessment Feedback System. All students in the program, as well as faculty and administrators, were administered and received feedback using this system. An interaction analysis system and an instrument to elicit pupil feedback about their teacher were employed in the program. An examination of our program would reveal direct and extensive benefits from the decade of research by the R & D staff.

While the relationship between these two institutions was never formalized, it became important to each. Both benefited by joint efforts as each contributed to the other. Perhaps this proposition should be explored as a basis for other collaborative efforts. The community never became functionally involved in the project because they did not perceive the benefits of involvement. This may be equally true for other inter-institutional efforts which have been less than successful.

IMPACT ON POWER STRUCTURE

The program described herein impacted the power structure in numerous ways. The coalition itself was a dramatic departure from traditional modes of operation. Each of the member institutions benefited to the extent that it participated in project activities.

Parity, as conceived in the project, does not mean equal representation or equality of tasks. Each individual who was involved brought differing personal attributes and competencies, and these impacted intra-project as well as inter-institutional relations.

Each institution had a history of responsibilities assigned to it by society. The schools' primary responsibility was in educating children and youth. The profession was concerned with its membership, their competence, and compensation. The community can not be so easily described, for there are multiple communities. Organized groups and community action organizations each have their own purpose, while individuals are primarily concerned with their families--with schools' relations with their children and with taxes. Nevertheless, whatever the communities' primary roles were, they were not teacher education. Within the University, only the College of Education viewed its primary mission as teacher education. Arts and Sciences considered their role as educating man as citizen with prospective teachers simply a sub-set of this population.

Each institution brings to a consortium its own primary mission, its biases, and its contributions. Some consortium activities and decisions may be of intense concern to some institutions but of only peripheral interest to others. Thus, in decision-making, there is seldom parity in the true sense, for representatives do not choose to be equal.

Actions often seem to flow from one member who serves to move and shake the others toward actions he perceives to be important. Daily operation typically falls to the project staff who interpret policies and often make policies in their actions.

Consortia such as this one often are organized because of exterior funding. They are short-lived, targeted, and expedient. They do not affect the heart of the cooperating institutions, which may also be engaged in many other multiple organizational relationships. Decisions may also simply reflect project needs, not institutional needs. The parity concept, based on genuine collaboration among independent institutions over a period of time where the intra-institutional structure, and mission was subjugated within an inter-institutional structure, probably has not been attempted. Much has been written on this topic, but little evidence advanced beyond rhetoric. Whether this is possible within the American social system is yet another question.

LIAISON WITH SCHOOLS

Dolores Green

A liaison process involving a collaborative relationship between the University of Houston and the Houston Independent School District was operative from the program's inception. The liaison was needed to provide a realistic base for program planning, field-centered experiences for students, and continuous pre-service and inservice education for cooperating teachers. Major goals of this effort were to provide for broad-based participation and to make teacher education responsive to the critical needs of public school education. Program planners and implementers recognized the importance of cooperative efforts; therefore, mutual decision making and continuous planning were joint responsibilities of those providing and receiving services.

A representative of the public school served as a liaison agent during the three-year project and coordinated many of the collaborative efforts. A chronological account of liaison activities will probably best describe the cooperative process between the University and the public school.

In September, 1970, representatives of the College of Education, Houston School District, and Houston Teachers Association jointly recommended the original six project schools: Red, Turner, and de Zavala Elementary School, serving White, Black, and Brown communities, respectively;

Woodson Junior High serving a Black community, Milby High School serving a racially mixed community, and Waltrip High School serving a predominantly White community. Subsequent schools were selected by the same process and included Brock Elementary, a "paired" school attended by Black and Brown children, Rusk Elementary serving a Spanish-speaking community, and Reagan High School located in a lower-middle socio-economic White neighborhood.

An informational group meeting was first held with principals of the project schools and individual school meetings were held after interest in the program was indicated by the school principals. All six invited schools made a commitment to be involved and most of the teachers in each school expressed their willingness to have teacher education students in their classes.

Parents from Milby High School and Turner Elementary School, two Area Superintendents, the liaison representatives, and the Executive Secretary of the teachers' association served on the Advisory Committee which was organized in the Fall of 1971. They provided much provocative input to the project during its formative stage.

During November and December of 1970, and January of 1971, audio-taped interviews were conducted with teachers and principals in the project schools and with central office staff administrators to obtain data relevant to the problems of cross-over teacher assignments. Most teachers expressed concern about discipline and acceptance by the community in a cross-over teaching assignment. These suggestions were made and considered in curriculum development:

1. Teacher Education students should be in the schools more often and earlier in the program.
2. Experiences should be offered on classroom management, discipline for different cultures, and the operation of audiovisual aids.
3. Continuous and time-lengthened field experiences should lead the student gradually toward an internship phase of the program as opposed to the traditional sudden entry to student-teaching.
4. Students should learn parental attitudes in different cultures about grades, homework, and punishment.

The University faculty, staff and liaison representative taught classes in the project schools in order to free teachers to work on identification of teaching competencies that might be acquired in a teacher education program. In addition to this effort to identify competencies, parents of students in the project schools identified characteristics of effective teachers according to their perceptions. Questions and consensus answers for these interviews were as follows:

1. What should teachers be like?

   A: Dedicated, intelligent, understanding, unbiased, considerate, impartial, enthusiastic, and professional.

2. What should teachers be able to do?

   A: Teach, motivate, diagnose, prescribe, counsel, and manage.

3. What do parents expect of teachers?

   A: Fairness, information, and modeling.

4. What kind of attitudes should teachers have?

   A: Be consistent, pleasant, considerate, and understanding.

5. What should teachers expect of parents?

   A: Respect, understanding, visitation, cooperation, participation, and open-mindedness.

6. What should schools be like?

   A: Pleasant, friendly, interesting, stimulating, attractive, clean, and comfortable.

7. What should schools do for children?

   A: Provide guidance, counseling, aptitude tests, vocational training supplies, adequate library and resource center, small classes, teacher aides, citizenship, and interpersonal skills development.

8. What do parents expect of schools?

   A: Provide safe, clean place, best education, citizenship, and interpersonal development.

9. What should teachers expect of parents?

   A: Good communication, support, and cooperation.

An exception to the consensus occurred in the questions regarding teacher competencies. Inner-city parents emphasized discipline, order, impartiality, patience, and individualization in their teacher expectations. There were very few comments related to competence in knowledge of subject matter.

In the Fall of 1971, junior-level students entering the program visited several project schools during the career decision phase of the program and selected the school where they wished to be assigned for their field experiences. They also selected the teacher with whom they wished to work. Several secondary education majors changed to elementary education during this period and some changed to a different subject area. Some elementary majors changed their choice of grade levels. Students usually were welcomed as members of the faculty in their chosen schools. They were oriented to the school and were quickly involved in non-instructional tasks and then in teaching individuals and small groups. The time spent in the schools was increased as students became involved in instructional modules requiring performance and consequence objectives. They were critiqued and given feedback by their peers, University instructors, and cooperating teachers.

Members of the University faculty and staff met regularly with the school personnel to develop a viable communication system as the program developed. Modules and procedures were open to revision at all times, with input and feedback determining the direction and extent of revision. At the end of the first year with the junior-level students, 1972, the teachers in the project schools met two mornings for four-hour sessions with the University faculty to further identify teacher competencies in diagnosis and prescription, classroom organization, goals and objectives, planning, communication, instruction, management, interpersonal and intrapersonal development, and evaluation. Identification of the conditions under which competencies in these areas could be demonstrated was a priority.

By the senior year, students were at various levels of competency and most of them progressed into their internship, comparable to traditional student-teaching, sometime during the academic year 1972-73. New students entered the program and followed the same procedure for school and teacher selection. Regular conferences and meetings with teachers and principals were continued and modifications in curriculum made as the need was indicated via their feedback.

The project schools provided the opportunity for students to increase competencies and served as field testing sites for instructional modules. The staffs of project schools were receptive to and knowledgeable about the philosophy, goals, and objectives that had been identified jointly.

Extensive and continuous field experiences proved to be a valuable component in the CBTE program. A number of interesting observations were made as a result of public school involvement. More problems seemed to arise in the secondary schools than in the elementary schools. The climate at the secondary level seemed to be more closed and the teachers more rigid. One teacher, for example, had purchased a library of paperback books during the summer, had looked forward to teaching literature from these books, and did not feel that he could allow the student teacher to have the time that she needed to practice her competencies in other types of curriculum implementation. In cases such as this, it was necessary to negotiate a transfer of the student to another teacher who was more flexible.

A problem encountered in several situations was that of the student dropping out of the program for various reasons after a teacher had worked with the student for one or more semesters. In these cases, it was not possible to offer remuneration to the teacher. In Texas, teachers receive a $200 stipend for supervising the student only during student-teaching (internship). Project coordinators and team leaders learned to inform teachers of this fact before they accepted students and the problem is addressed in the CBTE Cooperating Principal and Teacher Handbook. Teachers usually felt that they had benefitted from the assistance of the student with both instructional and non-instructional activities, even though they did not receive remuneration.

Unique problems occasionally arose and each was handled uniquely, depending on the circumstances. The most potentially damaging incident to University-school relationships occurred when a student wrote a letter of protest to a school principal, berating her for "racial prejudice" and informing the principal "I will pray for you." This critical incident necessitated apologies to the principal and afforded the student involved a lesson in protocol and procedure for grievance.

A number of students experienced difficulty in planning their own schedule of attendance and activities in the schools.

This is understandable when one considers that they had spent 14 years in a system that had due dates for everything and an attendance check for each activity. Consequently, absences in schools were frequent for these few students. It was necessary to identify these students early in the program and they were offered more structure and guidance until they were ready to be self-directive.

A number of recommendations related to school liaison activities and field experiences can be projected from our experiences:

1. Teachers, parents, and school administrators should be involved in teacher education program planning and implementation.
2. Field experiences should be an integral part of the student's program rather than being delayed until student-teaching.
3. Students should be supervised by University professors as well as by graduate teaching fellows. This affords professional growth opportunities for the professor while building credibility for the University.
4. A management system to monitor the student's activities in the school is needed.
5. The State of Texas should provide remuneration for teachers who cooperate with the University in supervising pre-intern experiences.
6. A part-time public school liaison representative can be helpful in solving University-school relationship

problems.

7. A planned program of communication between the University and public schools is crucially needed.
8. In-depth inservice training for cooperating teachers is necessary.

SECTION 4

PROGRAM DEVELOPMENT

A key to understanding the University of Houston CBTE program can be gleaned from considering five basic propositions proposed for the graduate/certified teacher of the program. These propositions are listed below:

1. The teacher is a liberally-educated person with broad background in his teaching field.
2. The teacher exhibits behavior which reflects professionalism.
3. The teacher makes decisions on a rational basis.
4. The teacher reflects in his actions that he is a student of human behavior.
5. The teacher employs a wide variety of appropriate communication and instructional strategies.

The program developers at the University of Houston decided early that these premises would serve as the skeletons for program development and that topics, competencies, subcompetencies, and objectives included in the program would reflect the five premises.

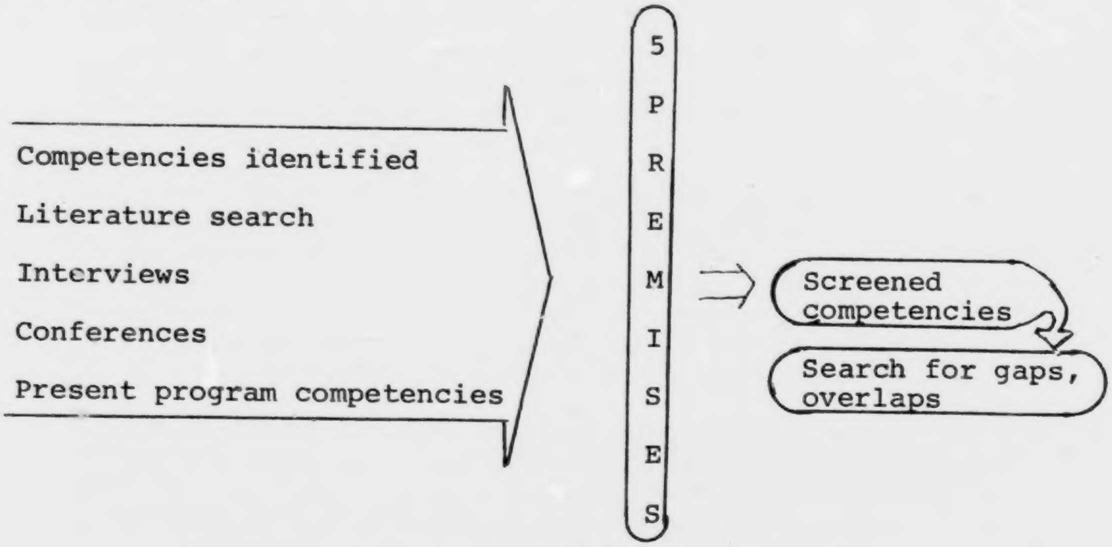
Unfortunately for most colleges of education throughout the nation, little accountability of the first premise can be demonstrated. Input to students on liberal arts topics has been and continues to be the function of departments other than those in the College of Education. In fact, in the University of Houston program a relatively small percent of a prospective teacher's pre-service training program is taught by the College of Education.

Approximately thirty semester hours of a 122 semester hour elementary program and eighteen semester hours of a 122 semester hour secondary program is devoted to professional education. It is this professional program which was competency-based, using a modular instructional format.

The development team, however, attempted to insure that the planned program would reflect the last four of the five premises in the professional education portion which was competency-based. Several existing CBTE programs throughout the nation have been developed by translating existing course structure into a behavioral objective format. Such an approach, we decided, would not provide the power necessary for a lasting, regenerative, and successful program.

The staff of the University of Houston Teacher Center felt that if an impact was to be made on the curriculum, a complete reorganization of the curriculum was necessary. Instead of taking all present course content and stating behavioral objectives, then developing instructional modules from them, the staff would specify new goals and objectives with new instructional strategies. Of course, there was some overlap between the new and the old, but the key to identification of any competencies, sub-competencies, and objectives was a role description for the beginning. This role description and its related competencies were teacher based on the five premises, with the program built on this framework.

In Section 2, note is made of how, through interviews, search of the literature, conferences and the like, competencies and skills were identified for the program. Instead of accepting a massive list of generated competencies and skills, however, it was decided that in order to be incorporated into the program, a competency or skill had to be screened through the selected premises. A pictorial representation of this process is shown below.


Competencies identified
Literature search
Interviews
Conferences
Present program competencies
5 PREMISES
Screened competencies
Search for gaps, overlaps

Program competencies/skills identified

In this manner, curriculum decisions were made early in developmental efforts. Clusterings of common objectives were made into five components. These five components as of March of 1971 were:

1. Personal and Professional Perceptions. In this curriculum area, students would explore such questions as "Who am I?," "How do I relate to teaching?." The purpose of the component was

perceived to assist the prospective teacher to make meaningful decisions about his vocational choice. Experiences were planned to begin immediately upon induction into the program and continue until graduation and certification.

2. Psychological Ecology. The intensive study of human behavior was to be the focus of this curriculum area. Experiences, including linguistics, sociology, psychology, cultural geography, and anthropology would be explored in this component. Students would demonstrate competencies derived from each of these fields.

3. Learning Environment essentially would encompass the study of the organizational structure within which the teacher works and its ramifications for teaching. Physical facilities and other noninstructional aspects would also be included for study.

4. Curriculum Decisions. This area would focus attention on processes of goal-setting and on critical interrelationships between established goals and instructional decisions. A conceptual structure was to be developed which would allow students to perceive the values which various curriculum decisions reflect.

5. Instructional Strategies. In the fifth curriculum area, students would be expected to translate their knowledge of content, pupils, societal needs, and the environment into viable strategies and tactics of instruction. Specific study of instructional skills were also included.

It was anticipated that all instructional activities would be developed around these major themes. Each area would be introduced early in the program and would be continued throughout. It was anticipated that the content of the program would be at least as rigorous as in the present program, but fulfillment of requirements would be based on attaining competence rather than completing courses. Close student-faculty contact would be maintained through regular conferences in which programs would be modified to meet specific individual needs.

Instructional decisions were also made by this same time. For example, it was planned for students to be involved in three major educational activities:

1. Individual activities where the student receives a substantial proportion of cognitive input in mediated form.
2. Laboratory activities where the student is given an opportunity to practive specific behaviors in a supportive, stimulating environment and to receive feedback on those behaviors; and
3. Field activities where the student is given an opportunity to reality test his behaviors in the "real" world of the classroom.

Keep in mind that these statements were originated five months prior to the start of the program by students. In these five months of hasty preparation, several modifications of the curriculum and instruction of the program were necessitated. The ease with which a nucleus of people can influence change was somewhat overestimated. Also overestimated was the ease of building instructional modules, since no one on the staff had even built one before. Preparing mediated forms of input was a problem as well; each of the faculty and staff members knew how to show these to groups, but building them from scratch was something else. Much thought also had to be given to a workable management system and also to such things as grades and registration. These and the other little details (involved in all program development) cannot be underestimated by other program builders.

During the last stages of planning prior to implementation, several key decisions were made which greatly affected the success of the entire venture.

A first decision was necessitated by confusion over some terminology. Staff members recognized that they would not settle for just cognitive competencies as a measure of teaching success; we wished to insure that students would demonstrate teaching skills (performance and consequence competencies). For this reason we decided that students would spend a large portion of their program in the schools under university and school supervision. In addition, this same decision forced us to focus on performance and consequence competencies in designing modules.

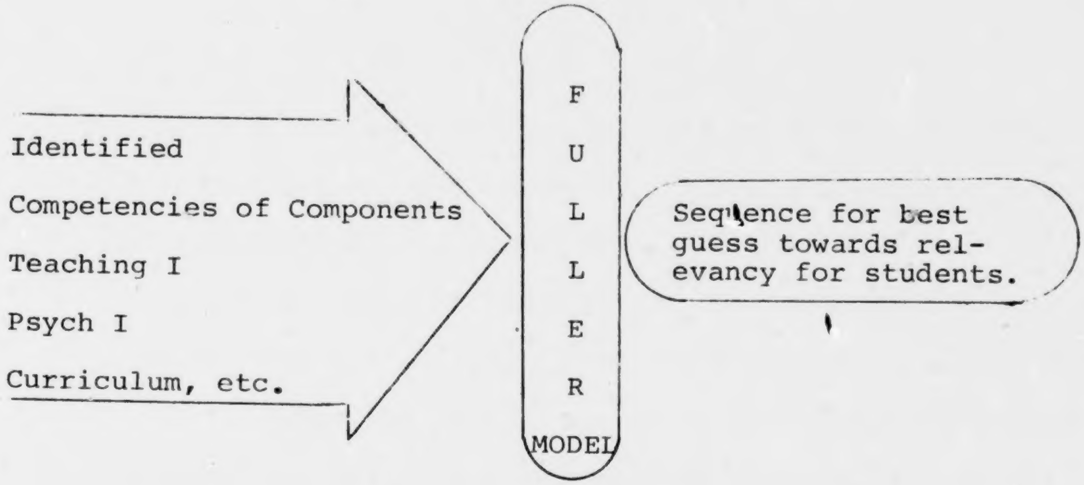
A second decision followed from the first and also from the difficulty in communication with other faculty who reacted somewhat bewildered to terms like "Personal and Professional Perceptions" and "Learning Ecology." Name changes for the components were called for, leading to the following descriptive terms.

From	To
Personal and Professional Perception	Affective
Psychological Ecology	Psychological Foundations I, II
Learning Environment	Socio-cultural Foundations I, II, III
Curriculum Decisions	Curriculum
Instructional Strategies	Teaching I, II, III

These new terms became, along with specific methods components, the descripters for present CBTE program components. Each of the objectives of the Psychological Foundations component was clustered into two smaller components, Psych Foundations I, II, and these were projected in the prerequisite-suprarequisites sequence for the program.

It is one thing to specify the objectives and competencies in a logical order; it is another to sequence them psychologically for instructional purposes. The concerns model developed by Frances Fuller of the Research and Development Center for Teacher Education at The University of Texas at Austin provided a rationale and supporting research for ordering the program. Fuller postulates that the teacher education student goes through a describable series of concerns. The beginning student typically is concerned with himself. This student raises questions such as "How adequate am I?" and "Where do I stand?" This student seldom asks "Where do I stand as a teacher?," "Are my pupils learning what I'm teaching?," or "How can I improve myself as a teacher?" These latter questions are asked only with teaching and other experiences with pupils.

Plans were made for another screening of competencies through the Fuller model.


Identified
Competencies of Components
Teaching I
Psych I
Curriculum, etc.
F U L L E R MODEL
Sequence for best guess towards relevancy for students.

The curriculum generated and ordered through this screen would be a more relevant curriculum as perceived by students. The decision meant that an early focus in the program would be on some aspects for which we were not prepared. The curriculum had to start focusing on instructional materials dealing with student questions such as "How adequate am I?" In fact, we couldn't find any other programs described in the literature which reflected concern for the similar question, other than the experimental work being done at The University of Texas at Austin.

A third major decision was coupled with this second decision. Since students would be going through a program, not through a series of courses, assigning students to an instructor for the program duration would allow students to see more continuity. This decision was made; and Audrey Graves, Robert Houston, Howard Jones, and Wilford Weber became the homebase instructors for students in the first experimental program in 1971. A rationale for this decision is described to students in the CBTE Booklet[1], pages 2 and 3.

How does the program differ from the normal education program at the University of Houston?

In the regular University of Houston program for elementary education majors, 43 hours of education courses are required. The sequence is shown in Figure 1.

Figure 1

C & I	362	Introduction to the Profession of Teaching
FED	361	Educational Foundations for Teaching
EED	334	Science in the Elementary School
EED	431	Language Arts in the Elementary School
EED	432	Reading in the Elementary School
EED	433	Mathematics in the Elementary School
EED	434	Social Studies in the Elementary School
EED	437	Survey of Children's Literature
EED	461A	Elementary School Student Teaching
EED	461 B*	Elementary School Student Teaching

Total for courses covered = 30 hours

CBTE does not cover ARE, MUE, HPE courses

*EED	462	Student Teaching and Kindergarten Laboratory is substituted for Early Childhood majors who also sugstitute EED 435, Language Development in Childhood Education for EED 431 and also substitute EED 436, Development in Early Childhood Education for EED 437. For these students an extra elective EED 471, Educational Programs for Young Children is also included in the certification program.

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[1] Jones, Howard L. and Richard A. Roberts, CBTE Student Booklet (All You Ever Wanted to Know About CBTE and Really Didn't Get a Chance to Ask) University of Houston, Houston, Texas, Summer, 1972. Mimeographed.

Students in this program take C & I 362 and FED 361 and after acceptance into the College of Education, take the remaining EED courses in any sequence they wish (usually determined by whether or not the computer will allow them into classes).

In the secondary program, some 18 hours of course work is required as shown in Figure 2.

Figure 2

C & I	362	Introduction to the Profession of Teaching
FED	361	Educational Foundations for Teaching
SED	432	Structure and Process of Teaching
SED	362	Secondary Curricula
SED	434A	Secondary School Student Teaching
SED	434B	Secondary School Student Teaching

A major problem in the regular University of Houston program is since students take courses in any sequence, instructors are faced with students having a variety of backgrounds. Instruction to students of such varied backgrounds is a difficulty and, consequently, some students find the course less than valuable. Similarly there is a loss of continuity between courses, allowing for more gaps and overlaps among courses.

The CBTE program tries to eliminate these two difficulties by ordering and sequencing instructional materials so that instead of courses, the student goes through smaller instructional packets (modules) which are designed for his specific background. This ordering and sequencing is an important aspect in the reduction of gaps and overlaps in any teacher education program. Similarly, a team of instructors works with the student throughout the program. The student will not be switched from Professor A in course X to Professor B in course Y. He will work mainly with four to five faculty members throughout his program and these faculty members will know him and his personal program as well as any person can.

A fourth major decision reflected the concerns which brought about the other decisions on the part of the faculty. Since most teacher education programs ignore completely the affective side of teaching and teacher development and since we saw a need for the affective side in all aspects of the program, the staff decided that those who were concerned about and capable in such areas should share a large portion of the decision making and input into the program. Counselors from the Counselor Education Department of the College of Education were asked to plan and implement instructional decisions to aid in the development of affectively oriented teachers. Their input, needless to say, has been invaluable.

In August of 1971, 64 students started the program. While initial parts of the program were ready, much of the latter portions were still on the drawing board. In describing to the reader the entire program, the next part of this document uses portions of the CBTE Student Booklet. The booklet, it must be mentioned here, was designed for the second experimental group who started the Fall, 1972. As such, revisions of the curriculum content are identified for the new group of students. Nonetheless, it does represent a valid picture of prototype CBTE efforts. The entire booklet is available to the reader in another document in this series.

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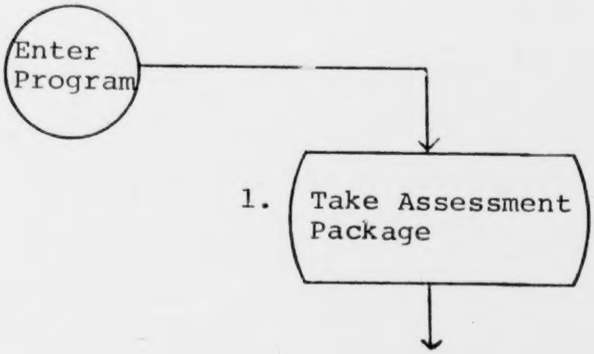

1. Designed to aid you and your instructors in determining input into your personalized program.

The assessment package noted in 1. is not a screening device but instead is a set of instruments taking some three hours to administer and designed to gather formative data on teacher education students.

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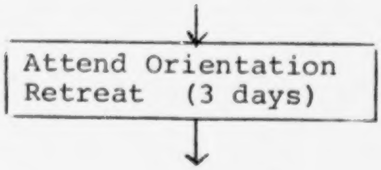
* Sections bracketed in this manner are lifted from the CBTE Student Booklet.

Each student who enrolls in the teacher education program at the University of Houston, when asked, will admit to the fact that he thinks he wants to be a teacher. Of course, there is great variance in commitment toward this goal. Effective teachers teach for a very good reason--being helping individuals. Other teachers teach for the money, the prestige, the power and the glory. Yet we felt that if a person did not know why he was going into teacher education, he must be given the chance to find out. The reader might note that this statement is one which differs somewhat from the usual statement that the prospective teacher should find out IF he wants to teach. The difference is intended. We felt rational decision-makers make decisions from the best available knowledge base. In the development program, an attempt should be made to insure that each participant had this knowledge.

Available to us because of our close collaboration with the R & D Center for Teacher Education was a set of psychological assessments instruments useful for just this purpose. These instruments are the following:

a. Adjective Self-Description
b. Autobiographical Information Form
c. Directed Imagination
d. One Word Sentence Completion
e. Self-Report Inventory

Detailed descriptions of these instructions can be found in the document, Teacher Education; more will be said about these instruments later in this document.



2. Attend Orientation Retreat (3 days)

2. Designed to help you in becoming a team member with other students with similar interests and backgrounds. Also it is designed to allow you to focus on your personal goals as well as to acquaint you with faculty/ staff members whom you will work with during the remainder of your program.

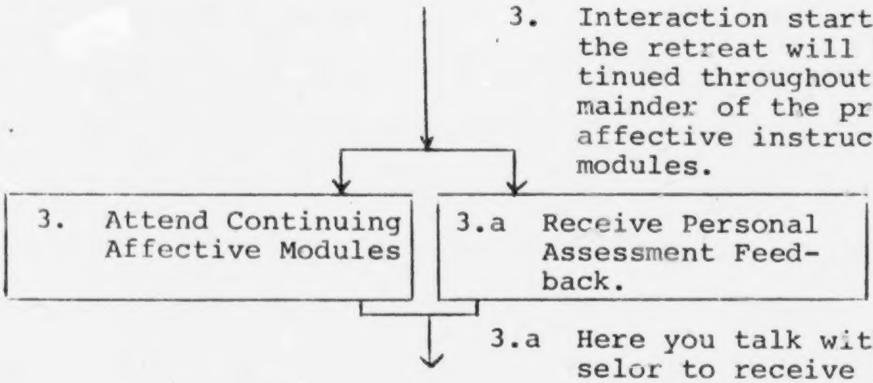
Because of the decision to focus on early concerns of teacher education students, it was planned to hold an orientation retreat, away from campus, in which students could focus on their concerns ahout self and teaching.

The retreat was designed in such a way that the student had an opportunity to become better acquainted with himself, with other students, and with the faculty. Activities were planned which helped the student to gain a greater understanding of self, to understand how his own uniqueness affects the manner in which he acts both as an individual and as a teacher, to begin working as a team member, and to gain an understanding that all (students and faculty) must work together to improve teaching and teacher education.

During the retreat and after the student had spent time exploring himself, he was asked to focus on his interaction with others. He chose a person with whom he would like to work, and they went through exercises designed to establish trust and to encourage sharing. Following these exercises the pair chose another pair. After this, the group of four participated in supplementary sharing and trusting exercises, then they chose another group of four and formed a team of eight which worked together throughout the CBTE program. The team of eight participated in activities which encouraged group cooperation, group decision-making, and group cohesiveness.

Once the team members had begun to know and to trust one another, each student was asked to teach a 10-minute lesson to the other team members. This lesson was videotaped. It was played back and critiqued by the student, the team members, a counselor, and a curriculum and instruction (C & I) specialist. This experience allowed the student to teach a short lesson, to see himself on videotape, to critique his own teaching, and to receive feedback from others. It provided a first basis for analysis of teaching, one of the five basic premises. Throughout this experience the atmosphere was supportive and nonthreatening.

After the teaching and feedback, each student was asked to focus on personal strengths and weaknesses which he was aware of and to consider whether or not these had meaning for him as a person and as a teacher. It was emphasized that teacher education is a continuous process--the student was encouraged to continue his exploration and his growth throughout the program although the retreat was ending.


3. Attend Continuing Affective Modules
3.a Receive Personal Assessment Feedback.

3. Interaction started during the retreat will be continued throughout the remainder of the program in affective instructional modules.

3.a Here you talk with a counselor to receive feedback on the assessment package you took the first thing in the program.

After the retreat, the student returned to campus and continued the teacher education program while taking other required courses. During the first semester the student typically registered for 6 semester hours and took between 9 and 12 other hours in the College of Arts and Sciences. Two of the first experiences of the student on campus in the educational program were a series of affective modules and the personal assessment feedback sessions. Both of these were included early in the program to aid students in making the transitions from concern with self to concern with self as teacher.

Affective Modules

The affective modules focused on the individual and his relation to himself, his relation to others, and his relation to institutions such as the school. Some of the affective modules were required of all students. Others were prescribed by counselors when there was a need for them.

The rationale for the affective modules is that a teacher is a person and there is a need for him to understand human behavior, both his own and that of others. Teachers do more than teach subject matter; they teach people. In these modules the student was involved in activities designed to help him better understand human behavior. These modules were developed by staff counselors so that they were an effective continuation of the awareness activities at the retreat.

When a seminar was required in one of these modules, a counselor served as the seminar instructor; for example, he might conduct a seminar designed to assist students in recognizing and responding to attending behavior in the classroom. If a module required that students work in small groups, the counselor served as a group facilitator.

Students first worked through required modules Affective 1 (Awareness of Self) and Affective 4 (Communication: Listening and Responding) at the spot marked 3 on the program flowsheet.

Personal Assessment Feedback[1]

After students completed the assessment battery, the counselor assessed the data for each student.[2] A hypothetical profile of the student was derived from this data to help the counselor understand the student and his concerns. Each student was scheduled to see the counselor for a personal 1 - 1½ hour interview. Prior to the conference, the counselor rechecked his hypotheses derived from the assessment data; however, the assessment data never replaced personal observation and experience with the individual. The counselor explained to the student that he did not evaluate, but would give some impressions about what the student seemed to think and to feel about himself. The counselor also explained that this interview was confidential.

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[1] Personal Assessment Feedback is described in Counseling Teachers: Personal Assessment Feedback Counseling by F. Fuller and B. Newlove, the Research and Development Center for Teacher Education, The University of Texas at Austin, 1970.

Although the feedback is based on the student's responses to the tests, PAF is more than test interpretation. The counselor suggests that the student is the authority on himself and encourages him to concentrate on his feelings, his questions, and his concerns. Focus of the feedback is information about self and situations relevant to the student. The counselor and student discuss the student's personal characteristics and how these are relevant to the student. The counselor and student discuss the student's personal characteristics and how these are relevant to teaching and what the student might do to enhance his strengths and how he might deal with problems. The orientation is developmental, not remedial. The student was scheduled for one interview with the counselor; however, if he wished, he could discuss the assessment after he had had an opportunity to assimilate and to integrate the feedback or at any other time.

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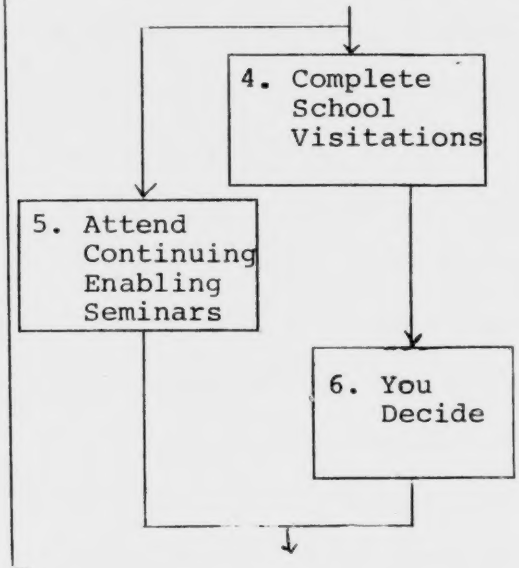
[2] The procedure for the assessment of test data is described in Counseling Report Manual by S. L. Menaker and C. L. Lewis, The Research and Development Center for Teacher Education, The University of Texas at Austin, 1972.


4. Complete School Visitations
5. Attend Continuing Enabling Seminars
6. You Decide

4. Here you visit the CBTE Portal schools, get to see classes, meet teachers, principals, and students.

5. During the time of your school visitations and also throughout the remainder of your program you attend seminars with your group and group leader.

6. Now you decide which school and teacher(s) you would like to work in and with as you start your school experiences.

School Visitations/Selection

A reality basis is crucial to learning to be an effective teacher. For this reason the program provided for early entry into schools to aid the student in understanding what schools, teachers, principals, and pupils are like from the perspective of the prospective teacher rather than the pupil. He was being asked to be a student of the school rather than in the school.

According to the Fuller model, there are changes in concerns over time and with experiences. People do reach the level of concern about teaching and also reach the level of concern about their impact on others. We hypothesized that this process could be accelerated with experiences in schools with students. Data from studies such as those by Bloom indicated that the process can be accelerated even more when formative assessment feedback is provided to students on their successes and less-than-successes, expecially if the continuation of a safe, failure-free environment is provided.

Two major decisions were reached as a result of planning interviews with teachers in the Houston area. The first decision was that students should be assigned to a school or teacher for longer than a short one-half to one semester period of time usually devoted to student teaching. Second, it was found in interviewing crossover teachers that those teachers who crossed over and reported a great deal of difficulty had also had difficulty in the school from which they crossed over. We hypothesized that the teacher who is placed in a situation calling for acclimatization into a different sociological or cultural grouping would spend much effort on coping if he/she were also "learning" how to teach. The decision was made to allow students to select a school in which they felt comfortable, at least for the beginning portion of the program. In addition, student selection of schools would force the student into a decision which was more than just cursory--the school chosen would be that in which he/she would spend a great deal of time in during his program.

During Component 4, the students rotated through a minimum of five schools, considering each as possible teaching sites. In addition, administrators and teachers had a similar opportunity to assess students as well, so that when the student made the decision on his/her school (Component 6), the decision was a mutual one.

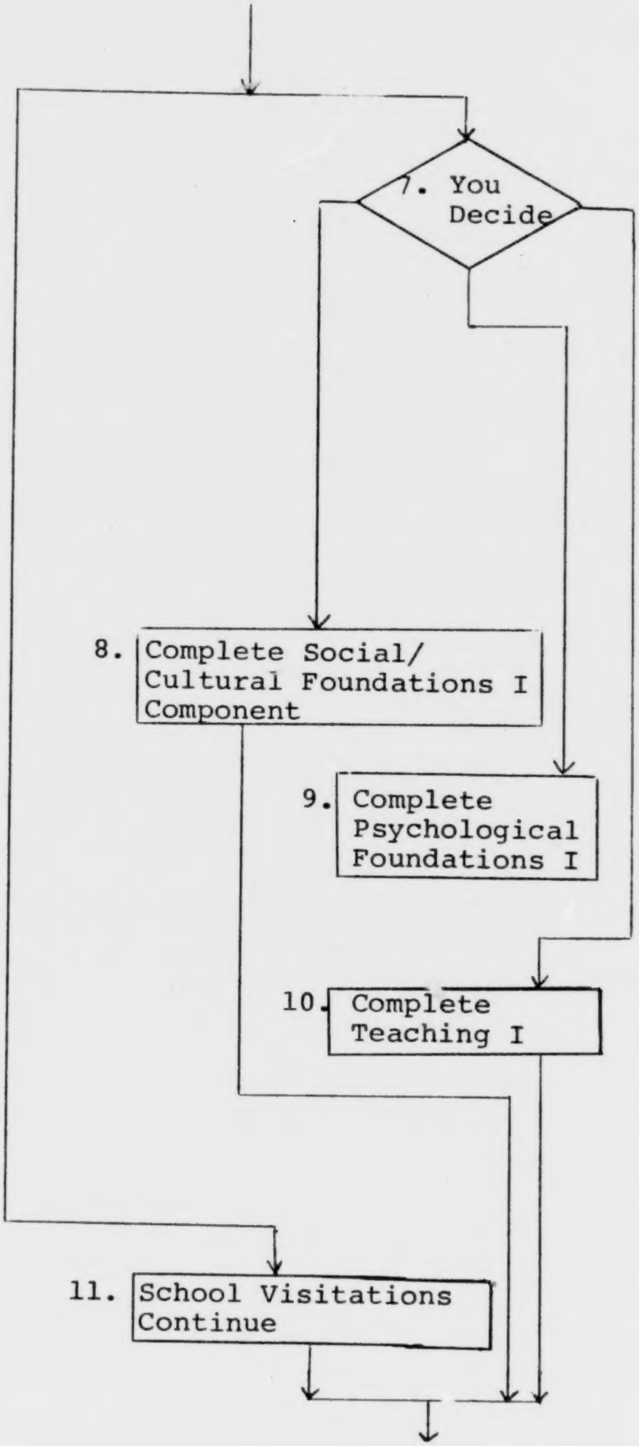
An interesting sidelight here should be noted. It was originally anticipated that students would chose "safe" schools on the basis of the schools from which they graduated or attended. We anticipated that schools with large black populations would attract black students and suburban schools would attract suburban students. This did not prove to be true. One predominantly black school having only 17 teachers attracted some 35 students of the second pilot group (1972-74), all of whom are white. Reasons from the students varied on why they selected the school, but all students agreed that the principal of this school was the determining factor in their decision. It should also be noted that the principal and his staff increased their staff size by some 300% at no cost to the district, through their work.

During the time students were in schools, they also attended seminars on campus (Component 5) with their team leader, a curriculum/instruction specialist. Focus of these seminars was on what the students were seeing in the schools. Because it was considered important that students look for something specific in schools, objectives for each of the seminars were identified; each objective was a part of the career decision experience, which were designed namely to identify whether teaching is for the student and the student is for teaching. Example: seminar topics for session during the weeks of rotation are noted below:

Week

1. Introduction to schools.
2. Develop and use a checklist for reporting the observations of individual students.
3. Identify teacher roles as manager, instructor, and personal interactor with students and identifying the time spent by teachers in the roles.
4. Identification of positive student-teacher interactions in school settings.
5. Identification of curricula sources in observed classrooms.

Topics were selected to reflect the major thrusts of the cognitive aspects of the CBTE program--psychological foundations, socio-cultural foundations, the act of teaching, curriculum foundations, and interpersonal-affective relationships with students. Each of these areas, as will be noted later, were greatly expanded upon in latter parts of the program.


7. You Decide
8. Complete Social/ Cultural Foundations I Component
9. Complete Psychological Foundations I
10. Complete Teaching I
11. School Visitations Continue

Steps 1-11 are the equivalent of 6 semester hours of course work.

7. Next you make some decisions about the competencies you need to acquire at the beginning of the program. You must demonstrate all of the minimal competencies identified in steps 8, 9, and 10 but they can be acquired and demonstrated in any order. These components identified in 8, 9, and 10 are clusters of smaller instructional packets (modules) designed to get to increase your competencies.

8. This component is designed for you to view the social and cultural forces that effect a child in school.

9. This component is designed for you to view the psychology of classroom learning and to acquire definitional and operational views of learning in the school.

10. This component focuses on your planning, implementing, and analyzing your own teaching strategies. The emphasis here is on basic technical skills in the area of planning, reinforcement, set induction, nonverbal mannerisms, and stimulus variations.

11. During the period of time it takes you to complete up to #10 you will spend the average of 1/2 day per week in the school chosen in #6.

In this beginning portion of the program where most learning materials were generic (those which all teachers should be able to perform regardless of their specialities), the prospective teacher was shown competency expectations in advance. Based on his concerns he could choose which generic competencies he wished to study first. He had options among learning alternatives. He was permitted to acquire the competencies at his own pace through the use of individual modules.

In such a program using insturctional modules, the role of the instructor takes on a different light than in most teacher education programs. Because of unique student concerns, wants, and needs, instructors provide experiences other than group presentations. Usually these new roles include feedback to students on progress and providing individualized or personalized learning alternatives for individuals or groups of students.

One of the key efforts toward providing feedback to students is found in the Teaching I component. To complete the component, students demonstrate nine teaching skills to instructors who, through affirmative feedback, helped the student identify strengths and possible weak areas of the student's instruction.

At this and other various points in the program, CBTE students were asked to videotape their teaching. Each student then viewed his tape with a counselor and a C & I specialist. After the tape had been viewed, the three persons critiqued the tape in a constructive manner. Although the C & I specialist may tend to focus more on teaching strategy and the counselor may focus more on the student's behavior and interaction with others, both share the same goal--to help the student become more aware of what he is doing and to help him maximize his potential.

Videotape allows the student to see himself as others see him. When an individual is teaching, he may be so involved that he is not conscious of his own behavior. By having a tape of the teaching session, the individual may study and restudy himself.

The purpose of VTF is not to change the teaching but to help the student be more aware of his emotions and behavior and how these affect his ability to relate to others. The emphasis is on helping the student to increase his awareness, not to break him down. Both the counselor and the C & I specialist attempt to create a supportive, nonthreatening atmosphere.

The starting point of the critique is frequently the student's reaction to his tape. The C & I specialist encourages the student to focus on his teaching, and the counselor emphasizes what is occurring on the tape and in the feedback session. The counselor also helps the student to relate the

Personal Assessment Feedback and the VTF. If a student comments on the lack of discipline, the counselor may ask if this is related to the student's need to have everyone like him. Later VTF sessions are frequently related to earlier VTF as well as to PAF, since all have a similar focus.

Since the sessions are developmental oriented rather than clinical oriented, there is no such thing as failure. The philosophy still remains to "Demonstrate the competency" or "Not yet."

How was the concept of videotape feedback introduced to students? Each pair of students was assigned a blank videotape to record and to serve as his "Blue Book" for performance objectives. Students found these three questions and answers in the CBTE Student Booklet.

> What is this I hear about videotape feedback?
>
> Yes, we do use videotape feedback and think it is one of the most exciting things that there is in the CBTE program. We as instructors try to provide you experiences which will allow you to teach. Many of these teaching sessions are videotaped and the videotapes are then critiqued by you, a curriculum and instructional specialist, and a counselor. Of course, this is only one way that we do provide feedback to you on your teaching strategies. Many students who have gone through the videotape feedback experience have not only demonstrated positive changes toward increasing their teaching skills but have also expressed a great deal of satisfaction with the experience.
>
> How do I get videotape feedback?
>
> If you'll check the bulletin boards in the CBTE library, you'll notice that there are time schedules by curriculum and instructional specialists and by counselors. Your responsibility

upon making a videotape, is to select a time that is convenient for you, a selected curriculum and instructional specialist, and a counselor. Notations can be made on the bulletin board to reserve this time and a room for your videotape feedback. Once you've made the notations on the board this forms a contract between you and the curriculum and instructional specialist and the counselor who will then meet you for your videotape feedback in one of the rooms which are identified on the bulletin board.

What if I don't agree with the videotape
feedback that is made by the curriculum
and instructional specialist and the counselor?

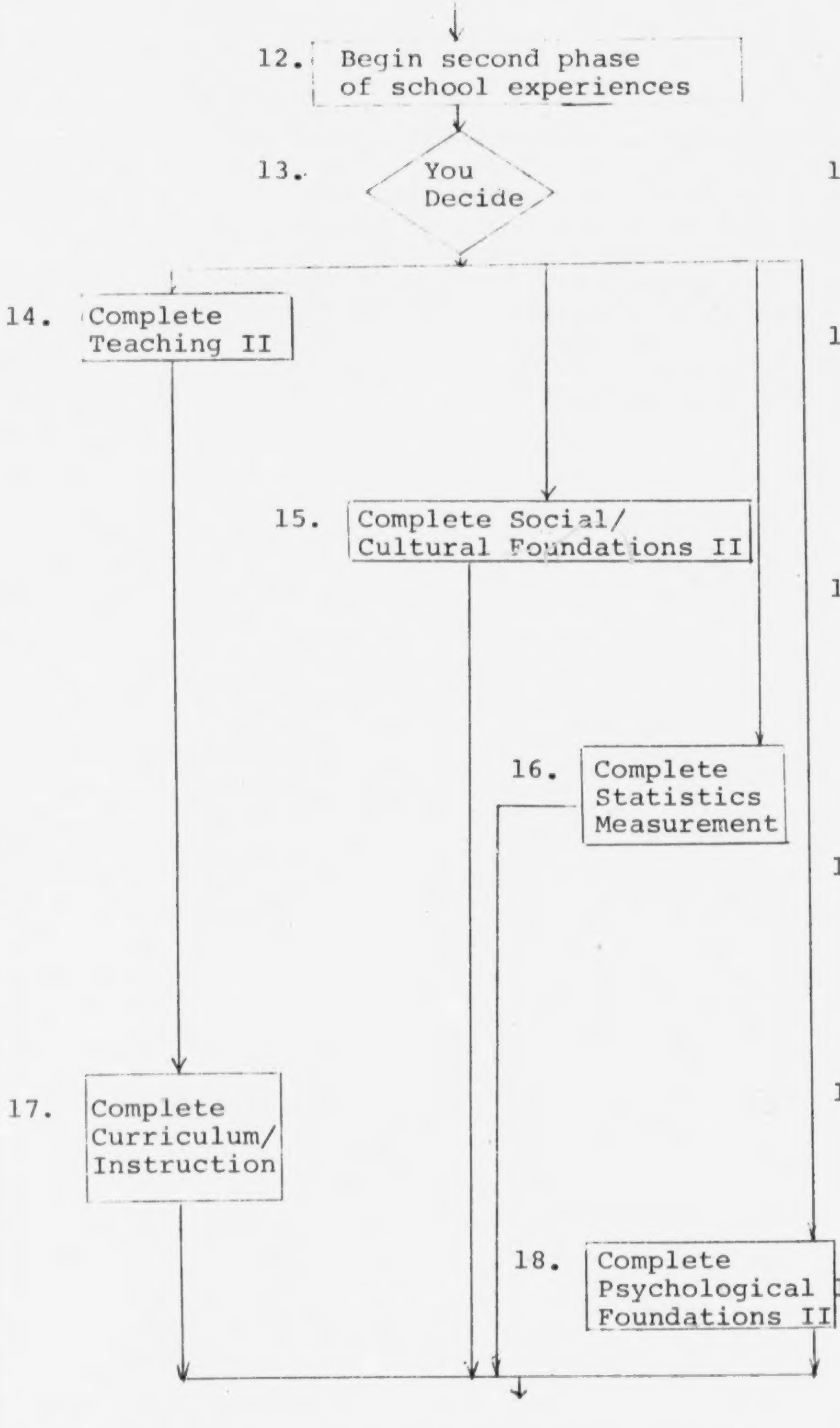
Certainly, this is a possible eventuality. During these sessions you'll be able to test out of certain teaching competencies, and if you think that you tested out of them and the curriculum and instructional specialist or counselor thinks that you haven't, then you face an impasse. Attempts are made to avoid these impasses, however. For one thing, if the instructor identifies the lack of a certain competency on your part he will prescribe instructional materials, usually in the form of a module. In other words, you don't flunk. But you still have to demonstrate the competency in the future to get out of the module. Of course no one likes to do extra work especially if he feels that he has already accomplished certain objectives. If you really don't agree that the instructional specialist has given you a fair shake, you have several options. First, you can go to another instructional specialist and counselor with your same videotape and have them review the tapes. Secondly, and considerably much more palatable as far as the CBTE program is concerned, is discussing your disagreement with the original curriculum and instructional specialist and the counselor. Throughout the entire program, we make attempts to provide a humanistic way of handling instructional materials. It is anticipated that you'll know your counselor and instructional specialist quite well. If you do not feel that you can talk with them, then really we have missed the boat. We do not spend the time that we do in the CBTE program on building better human relations to have you wind up being afraid to talk over disagreements with instructors. Similarly, if a prescription is made by a cooperating teacher in your school that you don't agree with, you have the same options. It is anticipated, however, that you will be close enough to this teacher to discuss the ramifications of any decisions that are made. It is recommended that you talk with your advisor if any disagreements do come up in the schools.

Other instructional modules in the Socio-cultural I and Psychological Foundations I components focused primarily on cognitive objectives in which the student related socio-cultural and psychological concepts and principles to the school and class they worked with. Relevance of tasks occurred since the enabling activities and assessments were related directly to students' weekly school experiences.

Note might be made here as to how program developers equated competency-based work with course credit, a necessity at a state supported institution where fiscal resources were equated with credit hours generated. Arbitrary decisions were made, which through best-estimates, sectioned the total program into courses. Students wanted to know if they could start other components when they finished earlier than the end of a traditional semester (Yes) and what grade would they get if they didn't finish the necessary work by the traditional semester end (f). Students also asked:

> If the program is competency-based why must I sign up for courses?
>
> Well, the state provides money to the Unviersity based on how many students are enrolled in the courses. At this point, we have not been able to identify how the university can get reimbursement from the state if you do not sign up for courses. What we have done is equated certain numbers of competencies with course work. For example, the competencies that we expect you, as a secondary student, to have at the end of the program is equivalent to some 24 hours of courses. In a normal education program at the University of Houston, 18 hours

is the requirement for secondary school teachers, so in the CBTE program you can sign up for six hours in addition to the usual course requirement. These six hours can take the place of any free electives that you might have in your degree plan. Of course, if you do not wish to take the extra six hours that is your prerogative. The elementary program is roughly 30 hours in a normal program and consequently the 10 courses that you would sign up for have been equated with a similar number of objectives. In any degree you must sign up for the courses to meet the state payment procedures.


12. Begin second phase of school experiences
13. You Decide
14. Complete Teaching II
15. Complete Social/ Cultural Foundations II
16. Complete Statistics Measurement
17. Complete Curriculum/ Instruction
18. Complete Psychological Foundations II

Steps 12-18 are the equivalent of 6 semester hours of course work.

12. This is 1 full day of work in the schools. Recommended as 2 half days for secondary and 1 full day for elementary majors.

13. Next you decide the competencies you need in the second cluster of components. You must demonstrate all minimal cometencies identified in steps 14-18 but they can be attacked in any order.

14. This component focuses on advanced teaching skills such as asking probing questions and using classroom management techniques. It also provides you with a coding system you can use to analyze your classroom interactions.

15. This component focuses on the economic, and religious factors influencing behavior of pupils in school as well as on the values and roles played by pupils.

16. This component focuses on the theory and practice of assessment as well as emphasizing the competencies of test construction and result reporting.

17. This component focuses on the theory and practice of identifying, setting, and implementing curriculum decisions in your teaching.

18. This component focuses on the use of psychology principles in teaching.

In the second phase of concerns in the Fuller model, prospective teachers reflect concerns about themselves as teachers. They are concerned about their ability to survive as teachers in a school situation, about such things as discipline, peer pressures, and approval from cooperating teachers and principals. While they notice and work with individual students in their experiences, they still concern themselves with the job, rather than the outcomes they as teachers have for students.

A teacher education program which uses the Fuller model as its basis must reflect these concerns. Prospective teachers who, hopefully, have reached the second level of concerns are ready for more in-depth experiences in schools. They are ready to take on more of a teaching assistant role than a teacher aide role. Their instructional materials and objectives should be designed around the acquisition of teaching skills which will allow them to function in a classroom, hopefully making their stay in Phase II shorter; hopefully pushing the prospective teacher into third level concerns--concerns about students. Fuller has noted that most beginning teachers are still in Phase II concerns level. We recognized that the effective program must attempt to push harder for prospective teachers to reach the third level prior to certification.

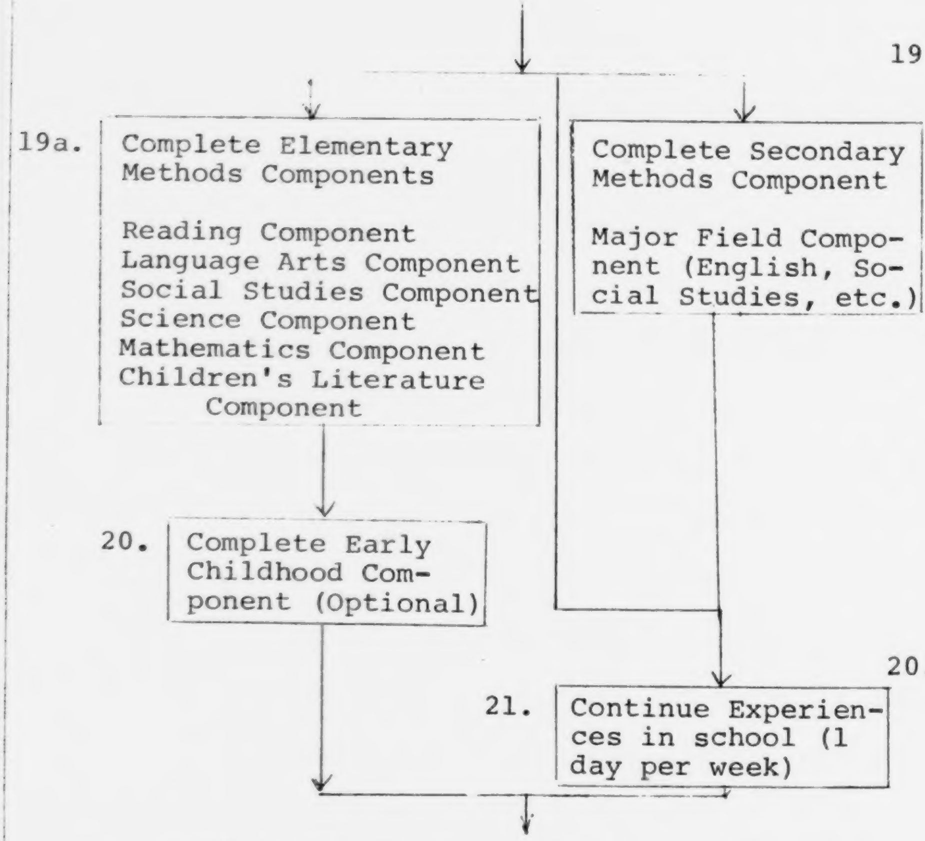
The instructional modules and components of this sequence were defined to accomplish the three things described above. Teaching II focused on advanced generic teaching skills, learning a useable coding system for analyzing teaching behavior and focusing on classroom management procedures. Sociocultural Foundations II focused on the Sociological and cultural implications of group teaching. Statistics and Measurement modules were designed to permit prospective teachers to acquire more advanced observation tools for working with and understanding their students.

The Curriculur and Instruction modules stand by themselves. CBTE programs have been criticized by some critics for failing to provide students with theory to support the teaching skills and competencies acquired as part of a CBTE program. The C & I modules were related both to theory and practice. They forced prospective teachers to focus on the reasons for doing things, to hold students accountable for being able to proactively describe teaching strategies and curricular decisions, and to demonstrate the results of these decisions with students.

The Psychological Foundations II modules added another dimension to the push toward Fuller's Phase III. While the majority of the modules did focus on the theory and use of psychological principles in the classroom, one module went beyond this. The Phenomenological Module focused on a consequence or product objective.

McDonald (p. 70) writes that "There is almost universal agreement that the ultimate criterion for evaluation of a teacher is the effect of his teaching behavior on the performance of his pupils." This is a Phase III concern of prospective teachers and would not typically be reached by the beginning teacher education student. We projected that attempts must be made throughout the program to identify enabling objectives to this terminal objective which is in keeping with the concerns levels of prospective teachers, always pressing for the consequence objective attainment.

In the phenomonological module, prospective teachers were expected to demonstrate increased self-concepts of students as a result of interaction with the prospective teacher. This is the first of a number of subsequent consequence objections in the program.


19a.
Complete Elementary Methods Components
Reading Component
Language Arts Component
Social Studies Component
Science Component
Mathematics Component
Children's Literature Component
Complete Secondary Methods Component
Major Field Component (English, Social Studies, etc.)
20.
Complete Early Childhood Component (Optional)
21.
Continue Experiences in school (1 day per week)

Steps 19-21 are the equivalent of 3 hours secondary and 9 hours elementary (12 early childhood.

19. Depending on your major field (secondary/elementary you will be expected to acquire the specific competencies needed for teaching subject matter. These components focus on the curriculum and instructional materials unique to teaching specific areas. Note should be made here that these components individually are shorter than the normal methods courses because much of the normal courses is covered earlier during earlier components of CBTE.

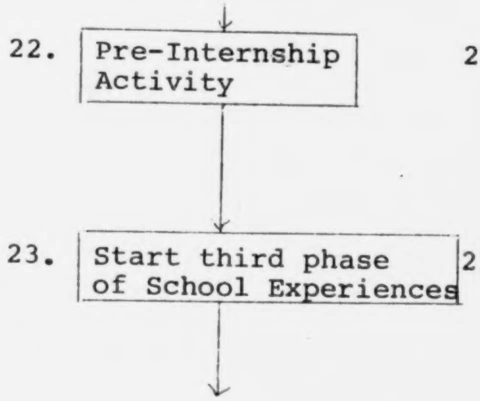
20. Students wanting kindergarten endorsement are also required to demonstrate other competencies in an Early Childhood component.

One of the questions raised by a number of students has been:

Why is there so much overlap between the elementary and secondary program?

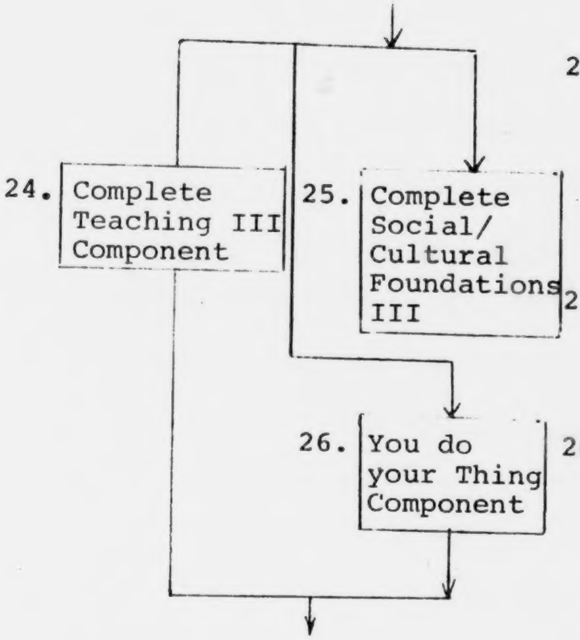
Basically because teaching skills for elementary teachers are not all that different from those demonstrated by effective secondary teachers. These common skills, called generic skills, are the ones you will face in the early part of your program. Specialized skills are the focus of later portions of the program.

It is this specialized portion of the program that is shown in the above diagram. For the most part, the competencies and skills of these areas were determined after screening by specialists in the specific areas (e.g., mathematics, science, etc.). Most of the components were somewhat different from the traditional courses because generic and overlapping areas were removed from the CBTE efforts. In addition several components added some advanced topics which regular courses were unable to include because of time constraints. Each component was expected to be able to be used by students as they worked in schools one full day or two half days each week.


22. Pre-Internship Activity
23. Start third phase of School Experiences

22. This activity is designed as a diagnostic period where groups of students work together to refine and integrate the necessary skills for internship.

23. This third phase consists of your doing an internship (all day, everyday elementary, half day, everyday secondary) in your chosen school. During this equivalent of student teaching, you will be expected to demonstrate your acquired competencies in the "real world."



24. Complete Teaching III Component
25. Complete Social/ Cultural Foundations III
26. You do your Thing Component

24. This component focuses on advanced teaching skills applicable to your internship. Completion of these skills signals the end of your phase III school experiences.

25. This component focuses on school law and educational philosophy, both your own and others.

26. Your thing is another way of saying that we think you should have some kind of specialty. We will design any instructional materials you wish that matches an area of competency that you want to focus on.

Fuller has noted that the movement of students from Phase II concerns to Phase III concerns is the most time consuming, the most difficult and yet the most important transition of all. To Fuller this transition is probably the most important single professional gain that a teacher ever makes. A teacher education program which ignores this is destined to always be considered as ineffectual, useless, boring and trite to its students.

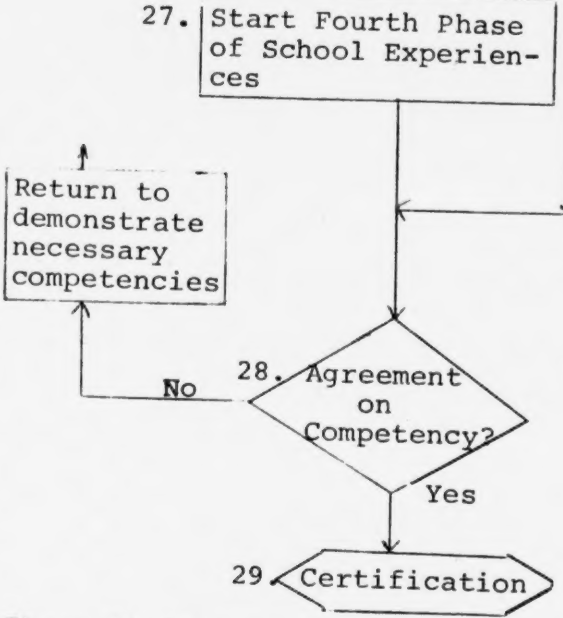
The Fuller model has relevance to the cognitive input made to prospective teachers during this portion of the program. Fuller noted that the concerns of prospective teachers early in the program are with self. Traditionally, the

Colleges of Education have offered to these students the Cultural, Historical, and Sociological background of education. Prospective teachers, however, are not concerned with historical perspectives--they want to be able to cope. However, late in Phase II or Phase III the student who is interested in students and his concerns make more meaningful a study of school policies, historical precedents, psychological theories, and cultural thrusts. These concepts, coupled with school law, become more meaningful at this level.

It is for this reason that prospective teachers demonstrated prerequisite competencies and, at a time determined not be semester end or by a calendar, was placed in an internship position in his school. Successful demonstration of competencies was expected of him in this setting, just as earlier in his program he was expected to demonstrate these competencies in simulated, peer, and small group situations. In addition he was expected to teach--bring about pre-determined changes in students. The prospective teacher was held accountable for both affective and cognitive changes. Successful completion of his internship depended on his students performances and attitudes. Continued feedback was provided by the cooperating teacher and staff members.

During this time, the counselor and the C & I specialist visited the school at regular intervals to see each prospective teacher in the actual teaching situation and to provide feedback. A typical point of emphasis is the prospective teacher's ability to make the transition from the theoretical to the practical.

To add another dimension to this feedback, the cooperating teacher in the school was interviewed about the strengths and weaknesses of the prospective teacher with whom he was working. This information was incorporated into the feedback sessions, and suggestions based on the cooperating teacher's recommendations were made. Information from students with whom the student teacher was working also added to the feedback; they are asked to complete an evaluation form concerning the way they viewed the student teacher. The school feedback was related to the Personal Assessment Feedback and to videotaped feedback since all was intended to help the prospective teacher know himself better.


27. Start Fourth Phase of School Experiences
Return to demonstrate necessary competencies
No
28. Agreement on Competency?
Yes
29. Certification

27. In this phase you are moved to another school and are expected to demonstrate competency in a new teaching setting.

28. If agreement is reached by your cooperating teacher, by you, and by the CBTE staff, you are recommended for certification.

29. But remember, teaching skills and competencies are not static. You will probably continue into advanced teaching skill learnings as prescribed and provided by your school district.

Steps 22-27 are the equivalent of 9 semester hours.

Throughout the first portion of this program the prospective teacher remained in one school, unless he purposely made an effort to move to another setting because of difficulties or personal problems. We anticipated, however, that they would need experiences in more than just one setting. Throughout the methods portion of his program the prospective teacher often asked to microteach and interact in other schools besides his "home" school. Now, after demonstrating competence in "his" school, he was moved to another school setting, where he once again was asked to demonstrate competence. This other setting was usually a crossover situation. By this time the student should have reached late Phase II or early Phase III concerns and he should have been better able to cope with real and perceived differences in schools and with students.

To complete the program and to be recommended for certification, the student must have demonstrated competencies in a second school. Upon completion of this second (and typically shorter) internship, the student finished the program.

Some Notes on the Final Program

The program developed at the University of Houston has developed to reflect the education of a teacher who is a self-reviewing student of human behavior who is capable of making rational decisions.

In addition the program aimed toward these characteristics:

1. Keeping a sharp focus on objectives, made public in advance to sutdents.
2. Placing of the responsibility for learning on the student.
3. Providing for a greater emphasis on individual assessment through feedback.
4. Providing better integration of theory with practice.
5. Placing the priorities of the curriculum on generating the competent teacher.

We felt that the thrusts of a CBTE program must be made, knowing full well that the product--the competent teacher--must be prepared to change to meet changing needs of students and society. This idea of self-renewingness is key here.

Toffler has noted that "By instructing students how to learn, unlearn, and relearn, a powerful new dimension can be added to education."[4] In addition to competency demonstration, it is also important that the teacher be able to identify the need for new competencies through advanced work. Openness to feedback, started during an undergraduate program is a first step here.

When viewed by someone outside the program, often flow-charted descriptions seem inhumane or rigid. This same question was raised by the students who were considering going in the experimental efforts.

Doesn't this mean that there is little flexibility for the student?

This is one of the dangers with trying to describe a complete program like that shown in Figure 3. Our basic philosophy is that we will allow you to do anything in any sequence as long as you can justify your activities to yourself. We will hold you accountable for demonstrating effective teaching behavior. We will also provide several alternative learning pathways, based on our best estimates. But, you're you. You decide on your best estimate, if you don't like ours, then let's negotiate. Generally we see the CBTE program as having a high degree of flexibility and your team of instructors will work with you in any way they can.

The thrusts of a teacher education program like that described in this section cannot be made at all without a close working relationship with schools. The Syracuse model called for a form of protocooperation--a cooperative effort in which neither of the affected parties (college, schools) really needs the other to survive. These relationships call for parity with school districts in identifying competencies, enabling activities, experiences, and assessment devices for competence. In our CBTE program, great efforts have been made not to force "our" ideas into schools. Throughout the entire operation teachers and administrators have been involved in the planning and implementation of the pilot programs. The value of a liaison representative between college and schools cannot be overstated.

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[4] Alvin Toffler, Future Shock, page 367.

As a part of our project we were fortunate enough to have, as a half-time basis, two school personnel who worked in the development and implementation of the program. Without them, or their equivalent, the implementation of a field centered CBTE program would be a more massive task than it presents.

The chart concluding this section summarizes the broad dimensions of the program and suggests how they are related to the Fuller concerns model.

PROGRAM SCOPE AND SEQUENCE

RETREAT	EARLY PROGRAM	MIDDLE PROGRAM	LATER PROGRAM
Safe environment	Students selects "home" school	Continues as teaching assistant in "home" school	1st Accountability Internship
Freedom for expression of concerns	Student is able to identify necessary generic competencies	Self-direction and choices allowed for students in acquiring specialized skills	Affective modules include Professional Ethics for the Educator
Planning and implementing peer teaching	Self-pacing provided for student's acquisition of required skills	Self-pacing continued	2nd Accountability Internship in different school
Videotape feedback on lesson by peers and instructors	Feedback provided to student via PAF and VTF	Feedback provided on school experiences	
Supportive environment	Continues as teacher aid in school	Affective modules focus on decision making	
All designed to aid students toward 2nd Phase concerns	College instructor assumes role of facilitator and feedback specialist		
	Affective modules provided focusing for student on Sharing Self With Others, Decision Making and Group Processes		

SECTION 5

PROGRAM OBJECTIVES, MODULES, AND COMPONENTS

This section of the report includes a listing of program objectives, modules, and components for the program. The reader may find the listing of the developed program components, modules, and objectives instructions on the following pages. On each of the succeeding pages (144-186) identification is made of the component, module, and objective. For each objective, note is made of whether it is required or optional as well as whether it is cognitive, performance, consequence, or exploratory in nature. The reader is referred back to Section 4 to identify how the components and modules existed in the program.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Teaching I	1.0 Writing Objectives	✓		✓				1. Describes learning and teaching in terms of pupil behavior.
		✓		✓				2. Constructs behavioral objectives for lessons.
		✓		✓				3. Distinguishes between appropriate and inappropriate evaluation devices.
	2.0 Developing Lesson Plans	✓			✓			1. Constructs lesson plans using agreed-upon format.
	3.0 Initial Teaching Analysis	✓					✓	1. Receives first video-tape feedback on teaching.
	4.0 Identifying Higher Order Questions	✓		✓				1. Classifies learning objectives using the Bloom schema.
	5.0 Asking Higher Order Questions	✓			✓			1. Uses higher order questions in teaching situations.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Teaching I (continued)	6.0 Using Set Induction	✓			✓			1. Uses set induction techniques in teaching situations.
	7.0 Stimulus Variations	✓			✓			1. Uses stimulus variations in teaching: Focusing, pausing, movement, shifting sensory channels.
	8.0 Using Reinforcement Techniques	✓			✓			1. Uses reinforcement techniques in teaching: Positive, qualified, and delayed.
	9.0 Non-Verbal Mannerisms	✓			✓			1. Uses relaxed and appropriate non-verbal communication patterns.
	10.0 Demonstrating Legible Handwriting	✓		✓				1. Demonstrates legible handwriting.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Teaching II	11.0 Communication and Attending Behavior	✓		✓				1. In simulated settings is able to identify attending behavior on the part of pupils.
	12.0 Using Probing Questions	✓			✓			1. Uses probing questions in teaching situations.
	13.0 Using Divergent Questions	✓			✓			1. Uses divergent questions in teaching situations.
	14.0 Analysis of Teaching Behavior	✓		✓				1. Codes and interprets the coding of his/her classroom interaction analysis tools.
		✓			✓			2. Implements any chosen strategy or interaction pattern into a teaching situation.
	15.0 Classroom Management	✓		✓				1. Describes classroom management techniques from the point of view of group unity and group standards.
		✓			✓			2. In simulated and real situations, demonstrate classroom management techniques which maintain or restore group morale, which handle group conflict, and which minimize future classroom management problems.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Teaching III	16.0 Process As And/Or Content	✓		✓				1. Describes educational objectives for use in internship which focus on more than memory.
		✓		✓				2. Describes educational objectives which emphasize proces rather than always content.
	17.0 Accountability	✓				✓		1. As a result of his/her teaching bring about affective growth on the part of pupils during internship.
		✓				✓		2. As a result of his/her teaching, bring about predicted cognitive growth on the part of pupils during internship

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Psychological Foundations I	1.0 Types of Learning	✓		✓				1. Uses categories of learning defined by Merrill, Gagne, or Bloom to classify learning experiences.
	2.0 Operant Conditioning	✓		✓				1. Identifies examples of the use of operant conditioning, positive reinforcement, negative reinforcement, and shaping in classroom situations.
	3.0 Model Learning	✓		✓				1. Identifies examples of the use of model learning in classroom situations.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Psychological Foundations II	4.0 Phenomenological Learning	✓		✓				1. Contrasts phenomenological and S-R learning with respect to motivation, use in the classroom, and outcomes in learning.
		✓			✓			2. Identifies or construct assessment instruments for obtai ing data about the self-concept of pupils and/or about th affective relationship between pupils and him/herself.
		✓				✓		3. Demonstrates that as a result of interacting with pupils there is increased positive affective growth of pupils or there is increased positive affective relationship between pupils and him/herself.
	5.0 Piaget and Education (Elementary required; Secondary optional)			✓				1. Defines and gives examples of conventional terms applied to Piagetian theory.
							✓	2. Administers Piagetian tasks to representative pupils.
				✓				3. Identifies topics and teaching strategies useful when working with pre-operation, concrete-operational and formal operational children.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Socio-Cultural Foundations	1.0 Groups and Attitudes	✓		✓				1. Describes differences and similarities in attitudes toward instructional situations as they are affected by group memberships.
	2.0 Groups and Achievements	✓		✓				1. Constructs a profile of group memberships held by one pupil in a school in which they are teaching and justifies.
		✓		✓				2. Predicts which group memberships effect him/her most in school.
		✓		✓				3. Identifies congruence or lack of congruence between his/her value judgments and those of his/her pupils.
	3.0 School Law	✓		✓				1. List in hierarchial order the governmental bodies and school personnel in the chain-of-command in Texas.
		✓		✓				2. List major sources of revenue for public schools.
		✓		✓				3. Name at least four teacher organizations and state at least one benefit of membership in each.
		✓		✓				4. Identify the following: TEA, ADA, MFP, Regional Service Center, J.W. Edgar, Norbert Frelb.
		✓		✓				5. Given hypothetical and real situations, identify the ones for which a teacher could be held liable.
		✓		✓				6. In the same hypothetical situations, identify what a teacher could do to avoid any litigation.

COMPONENT	MODULE	Required	Optional	Cognitive	Performance	Consequence	Exploratory	OBJECTIVES
Socio-Cultural Foundations (Continued)	3.0 School Law Continued	✓		✓				7. Identify possible sources of insurance against liability payments.
	4.0 Family, School, and Community	✓		✓				1. Based on information gathered from the home, community, and school environments, students should be able to state objectives and identify activities, materials and procedures are: (1) compatible with the needs of their pupils and, (2) justifiable in terms of the pupils' environments. The lesson must be planned for a group of pupils in your school (not peers).
	5.0 Organizational Climate	✓		✓				1. Identifies the organizational climate (using Halpin and Croft terminology) of their internship schools.

COMPONENT	MODULE	Required	Optional	Cognitive	Performance	Consequence	Exploratory	OBJECTIVES
Social Studies Methods (Required Elementary and Secondary Social Studies students; optional for rest)	1.0 Social Studies Rationale			✓				1. Produce Social Studies Rationale.
				✓				2. Write Social Studies Curriculum Goals.
	2.0 Social Studies Content Sources			✓				1. State Social Studies Goals using three content sources.
	3.0 Social Studies Purposes			✓				1. Write Social Studies objectives for achievement of four purposes.
	4.0 Social Studies Materials			✓				1. Select Social Studies Materials for specific objective pupil population and school condition.
	5.0 Social Studies Values				✓			1. Select and implement objectives and instructional modes aimed at furthering moral development.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Social Studies Methods (continued)	6.0 The Relationship of Knowledge in the Social Studies			✓				1. Given a statement taken from one or more of the social sciences, the intern will: (1) state a teachable generalization for the social studies, (2) extract the first level concepts from that generalization, and (3) utilize the concepts thus extracted to design a learning situation.
	7.0 Techniques of Social Studies Instruction			✓				1. For a topic of his choice, the student will be able to describe how a teacher would plan for and execute the following techniques: lecture, concept development, inquiry/problem-solving, and role-playing/simulation.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Affective	1.0 Awareness of Self		X				X	1. Upon completion of this module the student will have attended a seminar and participated in activities designed to increase self-awareness.
	2.0 Awareness of Self in Relation to Others		X				X	1. Upon completion of this module the student will have participated in activities designed to increase his/her awareness of self and to provide an opportunity for the student to share this awareness with someone else.
	3.0 Sharing Self with Others	X					X	1. Upon completion of this module the student will have attended a seminar and participated in activities designed to increase his/her awareness of his/her attitudes and life style. The student will also have shared with others.
	4.0 Communication: Listening and Responding	X						1. Participates in activities designed to provide practice in listening and responding. 2. Classifies observed individual responses as evaluative, interpretive, supportive, probing, or understanding.
	5.0 Communication: Nonverbal	X					X	1. Upon completion of this module, you will have had an opportunity to improve your skills in recognizing, expressing, and responding to nonverbal cues.

COMPONENT	MODULE	Required	Optional	Cognitive	Performance	Consequence	Exploratory	OBJECTIVES
Affective (continued)	6.0 Communication: One-Way and Two-Way		X				X	1. Upon completion of this module, the student will have experienced the difference in feelings, in timing, and in accuracy between two types of communication.
	7.0 Decision Making I		X				X	1. The student will define the problem, choose alternatives, and make a decision based upon relevant feedback.
	8.0 Decision Making II		X				X	1. Upon completion of this module the student will have generated alternatives for situations representative of those in which a teacher might find himself. He/she will also have focused on decisions made while teaching and suggested alternatives.
	9.0 Decision Making III	X					X	1. Participated in activities designed to allow him/her to receive feedback from peers on decision-making.
	10.0 Effective Problem Solving		X				X	1. Upon completion of this module, the student will have worked through four stages of effective problem solving. He/she will have stated his/her problem, his/her involvement, his/ her feelings and reactions, and his/her contributions to the problem.
	11.0 Teacher Interaction		X				X	1. Upon completion of this module, the student will have practiced interacting with others through role playing; and he/she will have received feedback from the group as to his/her effectiveness.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Affective (continued)	12.0 Professional Ethics for the Educator	X					X	1. Given hypothetical school situations, decides on appropriate actions which are consistent with NEA Code of Ethics.
	13.0 Group Process		✓				✓	1. To participate in a group and examine the process of the group; to examine the group process of a class with which the student is working.
	14.0 Verbal Interaction		✓				✓	1. Designed to provide practice in observing the verbal interaction in a group; to provide an opportunity to participate in a discussion group and receive feedback.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Descriptive Statistics and Measurement Theory	DS-1 Introduction to Statistics		✓	✓				1. The student will be able to define descriptive statistics.
								2. The student will be able to categorize data as continuous or discrete.
								3. The student will be able to categorize data in the terms of levels of measurement scales.
	DS-2 Frequency Distributions		✓	✓				1. Given a set of unordered scores, the student will be able to (a) develop a simple frequency distribution; (b) develop a grouped frequency distribution; and (c) develop a frequency polygon.
								2. The student will be able to define the terms skewness and kurtosis in comparison to a normal distribution.
	DS-3 Percentiles and Percentile Ranks		✓	✓				1. Student will be able to differentiate at a dedinitional level between a percentile and percentile rank.
								2. Given a set of data and the appropriate formula, the student will be able to calculate specified percentiles.
								3. Given a set of data and the appropriate formula, the student will be able to calculate specified percentile ranks.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Descriptive Statistics and Measurement Theory (continued)	DS-4 Measures of Central Tendency		✓	✓				1. Given a set of data and the appropriate formula, the student will be able to calculate the mean, median, and mode.
			✓	✓				2. Given the mean, median, and mode of a distribution, the student will be able to determine the shape of the distribution.
			✓	✓				3. The student will be able to select the measure of central tendency appropriate for each measurement scale.
	DS-5 Measures of Variability		✓	✓				1. Given a set of data not organized or in a simple frequency distribution and the appropriate formulas, the student will be able to calculate the following measures of variability: (a) the range; (b) the interquartile deviation; (c) the sum of squares; (d) the variance; and (e) the standard deviation.
			✓	✓				2. Given a set of data in a simple frequency distribution, the student will be to calculate the standard deviation with the short cut formula.
	DS-6 Standard Scores		✓	✓				1. Given the mean and the standard deviation and appropriate formula, the student will be able to calculate the T-score or Z-score for any raw score.
			✓	✓				2. Given the mean and standard deviation, the student will be able to transfer raw scores to T-scores using either the graphing or computation simplified method.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Descriptive Statistics and Measurement Theory (continued)	DS-7 Normal Distribution		✓	✓				1. Given the mean, standard deviation, and normal curve table, the student will be able to calculate the probability of achieving any raw score.
			✓	✓				2. Given the mean, standard deviation, and normal curve table, the student will be able to calculate: (a) the percentile rank of any raw score; and (b) the raw score for any percentile.
			✓	✓				3. Given the percentile rank for any raw score, the student will be able to calculate a standard score for the specified raw score.
	DS-8 Correlation		✓	✓				1. The student will be able to define the term correlation.
			✓	✓				2. Given a scattergram, the student will be able to interpret the correlation between two sets of data in terms of degree and direction.
			✓	✓				3. Given the necessary data and appropriate formula, the student will be able to calculate (a) the product-moment correlation; and (b) the Spearman Rank Order Coefficient.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Curriculum	Instructional Dimension	✓		✓				1. When shown or given a description of teacher-student interactions in instructional settings, you will be able to identify where the activating impulse originates, where the action is received, and where the point of uncertainty lies.
		✓		✓				2. When provided research data or an article about learning, you will be able to describe how it fits into the instruction dimension of curriculum.
		✓		✓				3. When presented with a real or simulated teaching situation, you will be able to identify and implement a viable instructional strategy, giving reasons for your choice.
	The Value Dimension	✓		✓				1. Analyze a simulated or actural school curriculum to determine what the Value slant(s) is, and explain in a written rationale your reasons for the slant(s) you choose.
		✓		✓				2. Given a definition of education, analyze it to determine the Value slant it implies, the criticisms that patrons of the school in a democratic society might make, and suggest an alternative slant that might better suit the patrons.
		✓		✓				3. After visiting a school in operation, describe it in terms of the curricular values, identifying consistancies and inconsistancies in what you observed.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Curriculum (continued)	Behavior Domains	✓		✓				1. Identify student behavior patterns as being in the cognitive, affective, psychomotor, and interpersonal domains.
		✓		✓				2. Analyze identified behavior patterns for levels of behaving in each domain on a continuum ranging from automatic to creative actions.
		✓		✓				3. Given selected patterns for student behavior, identify likely ways of getting students involved in learning and describe appropriate teacher and student activities in the classroom.
	Synthesizing Element	✓		✓				1. The participant will analyze curriculum in terms of the behavior domain, curricular values, and instructional slants.
		✓		✓				2. After observation of real or simulated instruction, the participant will present valid recommendations for curriculum revision based upon consideration of all three components of curriculum.
		✓			✓			3. The participant will develop and teach a unit of instruction characterized by a deliberate choice of a curricular value, an instructional slant, and behavior domain(s).

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator		OBJECTIVES
Linguistics	1.0 The Nature of Language		✓				✓	1.	To inform the prospective teacher about some matters concerning language; to give access to concepts and materials that will better enable you to deal with language and language problems in the informed and constructive manner expected of a competent teacher.
	2.1 Non-standard Varieties		✓				✓	1.	To provide students an introduction for relating the findings of socio-linguistics to the problems of educating children.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator		OBJECTIVES
Language Arts (Required of elementary ed. Students and secondary language arts majors; optional to others)	1.1 Creative Writing Module				✓			1.	Prospective teacher will teach a creative writing lesson which meets the criteria established in the checklist provided in the pre- and post- assessment.
	1.2 Creative Writing Module				✓			1.	Prospective teacher will demonstrate that he can use the products of creative writing to teach or extend a reading skill, a language concept such as syntax, morphology, phonology, vocabulary building, mechanics of writing, i. e. punctuation, 1/2 spelling, paragraphing, capitalization.
	5.1 Grammar and composition				✓			1.	Prospective teacher will teach a lesson meeting a given criteria in which kernel sentences and their expansion are dealt with.
					✓			2.	Prospective teacher will teach a lesson meeting a given criteria in which classifying, outlining and paragraphing are the integral parts.
					✓			3.	Prospective teacher will teach a spelling lesson which imparts to pupils the system of English spelling using grapheme-phoneme relationships, morphological structure of words, consistency of certain spelling patterns, and/or explanations of some of the outrageous exceptions
					✓			4.	The prospective teacher will teach a review lesson of capitalization and punctuation by having children proofread their work.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
University of Houston AND The Houston Chronicle	Newspaper in the classroom	✓			✓			1. Using the daily newspaper the student will submit to a member of the instructional staff two written lesson plans based on objectives taken from (a) list at the end of this module, or (b) reading material listed in reference table of material at end of module, (Material will be found in CBTE library.), or (c) an original objective which meets the approval of the instructional staff.
		✓			✓			2. Using the daily newspaper, the student will select one of his lesson plans to teach in the classroom. The lesson will meet a given criteria listed in the post-assessment.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Language Arts	6.1 Teaching Handwriting				✓			1. Student's will construct diagnostic check lists, (1) for manuscript "readiness" and (2) for cursive "readiness " which are based on suggested reading and submit to instructor.
					✓			2. Students will conduct a manuscript writing lesson in a classroom situation for both right and left-handed children which meets given criteria.
					✓			3. Students will conduct a cursive writing lesson in a classroom situation for both right and left-handed children which meets a given criteria.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Science Methods (Required of all Elementary majors)	Inquiry Skills			✓				1. You should be able to use selected science processes in problem-solving situations.
	Piaget, Discovery, Learning			✓				1. Given a list of science topics/content, IDENTIFY those topics suitable for teaching pre-operational, concrete-operational and formal-operational children. (80% minimum)
				✓				2. Given a list of possible tactics/strategies for science teaching, IDENTIFY those tactics/strategies suitable for use with pre-operational, concrete-operational and formal-operational children. (80% minimum)
				✓				3. Given a problem situation, PREDICT the responses of a pre-operational, sensori-motor, concrete-operational or formal operational child. (80% minimum)
				✓				4. Construct a defensible rationale for teaching science as discover/inquiry. The rationale should include at least two possible anticipated benefits of discovery/inquiry.
				✓				5. Given a classroom setting, IDENTIFY the most effective classroom behaviors of a teacher. The identification of the teacher behaviors should be based upon Piagetian theory or the rationale undergirding the use of discover/inquiry in the classroom.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Science Methods (continued)	Development and Analysis of Selected Teaching Behaviors				✓			1. Demonstrate to your instructor's satisfaction that you can ask probing questions in a low-ratio teaching situation. (SDP 6)
					✓			2. Demonstrate to your instructor's satisfaction a set induction technique which promotes interest on the part of students toward the objectives planned for a low-ratio teaching situation. (SDP 7)
					✓			3. Demonstrate to your instructor's satisfaction that you can ask divergent questions in a low-ratio teaching situation. (SDP 8)
					✓			4. Demonstrate to your instructor's satisfaction that you effectively use wait times of at least three seconds in a low-ratio teaching situation. (SDP 9)
	Science Curriculum Materials			✓				1. Describe current elementary science curriculum materials (ESS, SCIS, SAPA, and conventional texts) in terms of the ten characteristics of inquiry science activities, and
				✓				2. Identify appropriate science instructional activities for three grade levels of elementary students, using as criteria your knowledge of Piaget and the characteristics of inquiry science activities.
	Planning for Teaching				✓			1. Select or construct instructional activities which are appropriate for children of a specified elementary grade.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Science Methods (continued)	Planning for Teaching (continued)				✓			2. Construct performance objectives which specify the knowledge and process skills which children will acquire from selected instructional activities.
					✓			3. Construct both pre- and post-assessment which will measure children's attainment of knowledge and process skills specified in performance objectives.
					✓			4. Construct a lesson plan which integrates performance objectives, instructional activities, and assessments into a coherent sequence of instruction.
	Science Teaching				✓			1. Implement inquiry science lessons with elementary students in a low-ratio teaching situation.
					✓			2. Use the selected teaching behaviors developed in Module 4 in presenting inquiry science lessons.
					✓			3. Revise instructional plans based on feedback from pupils, peers, and instructors.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Reading Methods Prospectus (Required of Elementary students only)	1. The Nature of Reading			✓				1. The student will be able to describe the role of decoding and comprehension in the reading act.
Teaching Reading Using a Basal Reader System	2. Introduction to the Basal			✓				1. List the 11 levels found in most basal reading series.
				✓				2. Tell what materials are included in each level.
				✓				3. List the steps in a basal reader lesson.
				✓				4. Give a demonstration of a step from a basal reader lesson; tell what step it is.
				✓				5. List what is included in each step.
				✓				6. Demonstrate one step of the basal reader lesson.
	3. Diagnosis			✓				1. State a definition of an IRI (Informal Reading Inventory) and a WLT (Word List Test).
				✓				2. State one reason why standardized tests are unsatisfactory for finding the level of reader a child should be placed in.
				✓				3. State how an IRI and WLT can be constructed.
				✓				4. Administer an IRI and WLT by a whole class method.
				✓				5. Describe how an IRI and WLT could be administered by a whole class method and an individual method.
				✓				6. State 2 major sources of error in the IRI and explain.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Reading Methods (continued)	3. Diagnosis (continued)			✓				7. Given a reading of an IRI, correctly state the instructional level and independent level. Given a reading of a WLT, correctly state the instructional level.
				✓				8. Compare and contrast the strengths and weaknesses of the WLT and the IRI.
				✓				9. Given any grade level 1-6, state why you ought to diagnose the reading of the class.
				✓				10. Given a grade level, state in writing how the appropriate test (IRI or WLT) can be administered by the whole class.
				✓				11. Given a set of test scores, interpret them.
				✓				12. Give a child's scores, state the independent and instructional levels.
	4. Grouping			✓				1. State the purpose of achievement level groups.
				✓				2. State 2 factors which should be taken into consideration when deciding on the number of groups.
				✓				3. State the main criteria for placing a child in a group.
				✓				4. State why groups should be kept flexible.
				✓				5. State one way in which teachers can minimize the stigmatizing effect of achievement level groups.
					✓			6. Given a tally sheet of test scores for a class in grades 2-6, divide the class into achievement level instructional groups.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Reading Methods (continued)	4. Grouping (continued)			✓				7. When should we group by reading level?
				✓				8. When should we use a teacher group according to specific needs? How long might these groups last?
				✓				9. When should a teacher group according to interest?
				✓				10. State one advantage and one disadvantage to having heterogeneous groups. When should they be used?
				✓				11. Why should two different types of groups be carried on simultaneously?
				✓				12. Describe the grouping system (or systems) you might use in each of the following situations: (a) You are assigned a classroom where children are already grouped homogeneously. How would you group? (b) You are assigned a classroom where you have a wide range of students. How would you group?
	5. Organization of a Basal				✓			1. Be able to describe in writing a program in reading for these children including a recreational reading program, program of reading in the content fields and a developmental reading program.
	6. Other Programs				✓			1. Teach a class that is using the one program of your choice. Your competency will need to reflect adequate preparation, knowledge of the needs of the pupils, and organization of the instructional and non-instructional tasks.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Reading Methods (continued) Individualized Reading	7. Scope and Sequence			✓				1. Given your file box of activities and a description of 30 children, describe a method by which you can diagnose and prescribe using the Scope and Sequence Chart.
					✓			2. Construct 10 activities for prescription.
	8. Individualized Reading Prospectus				✓			1. Complete a lesson plan for 26 pupils showing reading level, materials, activities, time allotments, conference questions, records for five consecutive 60 minute reading periods.
	9. Organizational Combinations				✓			1. Videotape or teach live a mini-class in reading using one of three suggested combinations that reflects adequate preparation and organization of instructional and non-instructional tasks, or design another system.
	10. Lesson Plans				✓			1. Student should be able to write a lesson plan based on a behavioral objective.
	11. Classroom Management			✓				1. Identify classroom management procedures conducive to teaching reading.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Reading Methods (continued) Miscellaneous Information	12. Word Attack Skills			✓				1. Define, give examples of, and distinguish between 1. the hard and soft sounds of g and c. 2. consonant blends and digraphs. 3. vowels dipthongs and digraphs. 4. short and long vowels.
				✓				2. State the final e rule and 3 of the most common exceptions. Give an example of a word which follows the generalization.
				✓				3. State 3 major generalizations concerning long and short vowels. Give an example of a word which follows the generalization and short vowels.
				✓				4. State one major generalization concerning the schwa sound.
				✓				5. State one major generalization regarding vowel digraphs and state how consistent it is.
				✓				6. State how the number of syllables in a word is related to the number of vowel sounds.
				✓				7. State the usefulness of clues to accent.
				✓				8. State 4 generalizations which give clues to syllable division. Give an example of each.
				✓				9. State why phonics by itself is insufficient for attacking words.
				✓				10. Given a word or series of words, be able to identify hard and soft g and c, consonant blends and digraphs, vowel dipthongs and degraphs, short and long vowels, words to which the final e rule applies, schwa sounds, and words containing a given number of syllables.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Reading Methods (continued) Miscellaneous Information	12. Word Attack Skills (continued)			✓				11. Define and state the relationship among the following word identification* skills: structural analysis, content clues, and phonics.
				✓				12. State under what conditions word attack skills are helpful in relation to words understood when spoken and sight vocabulary.
				✓				13. Order word identification skills in order of efficiency.
	13. Readiness			✓				1. Define reading readiness.
				✓				2. State the significance of each of the following factors in readiness: age sex mental ability auditory acuity language interest in books visual discrimination auditory discrimination visual acquity experience social and emotional maturity
				✓				3. State how the most accurate assessment of reading readiness can be made.
				✓				4. State what is measured on 4 sub-tests of any readiness test.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Reading Methods (continued) Miscellaneous Information (continued)	14. Reading, Parents, and Report Cards			✓				1. The student should be able to provide professionally acceptable answers to the following questions: a. On what basis can grades be assigned? b. What are the advantages and disadvantages of promotion and non-promotion?
				✓				2. The student should be able to provide professionally acceptable answers to the following questions from parents: a. Why did Johnny receive a certain grade in reading? b. Why is Johnny in a particular group? c. Johnny is in group 3. You teach the children in group one a greater volume of material than you teach the children in group 3. Wouldn't Johnny learn more if he were in group 1? d. How can I help Johnny with his reading? e. Johnny received a B in reading last year and a C this year. Why?
				✓				3. Given a description of a child similar to those found in the Information Given section, the student will be able to state what grade he would assign and whether he would promote or non-promote and why.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods Perspectives (Required of elementary majors and secondary math majors only)	1. Course Terminology			✓				1.1 Given four lists of four topics each, you will be able to indicate which of the four in each list is a component topic and which are module topics in at least three of the lists.
				✓				1.2 Given a component topic, you will be able to select at least two appropriate modules.
				✓				1.3 Given two sets of two modules, you will be able to suggest an appropriate component title for one of the sets.
				✓				1.4 You will be able to select in order the five parts of a module.
				✓				1.5 Given a list of six behaviorally stated objectives, you will be able to correctly identify five as to objective type.
				✓				1.6 Given a list of six behaviorally stated objectives, you will be able to correctly identify five as to whether they are cognitive or affective objectives.
				✓				1.7 You will be able to list at least four groups of people who are qualified to evaluate some (any) portion of your progress towards course objectives.
				✓				1.8 Given four true-false questions about the nature of enabling activities, you will respond correctly to at least three of them.
				✓				1.9 Given an objective, you will select at least three appropriate enabling activities.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods (continued)	1. Course Terminology			✓				1.10 Given four objectives, you will be able to indicate whether or not three of them satisfy the three criteria of behavioral objectives.
	2. What's Going on Around Here?			✓				2.1 Sequence the five course Components.
				✓				2.2 Map a tentative sequence of modules in chronological order which you plan to complete to meet course requirements.
				✓				2.3 List at least four functions of course instructors which will be assumed and two traditional functions which will not be assumed.
				✓				2.4 Name at least three journals which publish mathematics articles for elementary school teachers.
				✓				2.5 Name three services of the NCTM.
	3. Learner Overview			✓				3.1 Given a description of eight learning experiences related to addition of whole numbers, e.g. 3 + 4=7, the student will be able to classify seven of them correctly as concrete, semi-concrete, or abstract learning experiences.
				✓				3.2 Match the five types of reader considerations with specific instances.
				✓				3.3 Given five true-false statements about conversation, you will be able to respond correctly to four of them.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods (continued)	4. Strategies Overview			✓				4.1 Given five teaching-learning examples, the student will be able to classify at least four as expository or discovery, and inductive or deductive.
				✓				4.2 Given a choice of three mathematics topics, the student will be able to describe an activity for one of them which exemplifies the combination requested as in 4.1 above.
				✓				4.3 The student will be able to list the four criteria identified by Jerome Bruner against which instructional systems may be appraised.
	5. Teaching Overview			✓				5.1 Reproduce the individualization diagram in Underhill, Chapter 2.
				✓				5.2 List the four dichotomies related to teacher-role decision making.
	6. Content Overview			✓				6.1 You will be able to list three major curriculum forces and identify a specific example of the influence of each.
				✓				6.2 You will be able to select two major content topics and list at least one new idea which is introduced K or 1 through 6 as represented on a typical scope and sequence chart.
				✓				6.3 You will be able to list three major content topics (or strands) which encompass K or 1 through 6 different from the two in 6.2 above.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods (continued)	7. Course Synthesis			✓				7.1 Write a 2 page essay on the development of addition-subtraction or multiplication-division, K-6, with particular attention to: (1) attitudinal, maturational and experiential readiness, (2) concrete/semi-concrete/abstract, (3) use of number system properties, (4) extension to enlarged number systems.
				✓				7.2 Given three mathematics generalizations, you will be able to describe a discovery learning activities for one of them.
				✓				7.3 Write a short essay on the role of diagnosis in long-term and short-term planning.
				✓				7.4 Evaluate a system of instruction by using Bruner's criteria.
				✓				7.5 Given four variables, you will describe the teaching role which they determine.
				✓				7.6 You will be able to cite three trends in elementary school mathematics and describe a probable historical basis for each (need).
				✓				7.7 Given the names of three nationally known elementary school mathematics projects, you will be able to describe one of them in relation to staffing, grouping of children, use of teaching materials, and philosophy.
				✓				7.8 You will be able to discuss trends, programs, and issues in a small group setting by receiving an average of 3.5 on a 5 point rating scare (5 = high) as appraised by other discussants.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods Enhancing Your Understanding and Ability to Teach Elementary School Mathematics	1. Preoperational Concepts			✓				1.1 Given five relations the student will be able to identify at least four of the five as reflexive, symmetric, and/or transitive.
				✓				1.2 Given the names of a set of objects, the student will be able to suggest at least one way which the set can be partitioned to demonstrate negation, union, intersection, and inclusion.
				✓				1.3 Given the names of thee sets of objects, the student will be able to suggest three single seriations and two double seriations which could be made utilizing one set at a time.
				✓				1.4 Given two numbers you will be able to describe a way to determine which is larger.
								Robert G. Underhill, Teaching Elementary School Mathematics (Columbus, Ohio: Charles E. Merrill Publishing Company, 1972).
				✓				1.9 Given four statements with number names, the student will be able to indicate three correctly as to the cardinal/ordinal usage.
				✓				1.10 Given five number statements the student will correctly identify four as to number/numeral reference.
				✓				1.11 Given one of the concepts or an example of one in objectives 1.1 through 1.8 above, you will be able to represent the solution semi-concretely.
				✓				1.12 Given the description of four activities, you will be able to indicate whether each is a concrete, semiconcrete, or abstract learning experience on preoperational concepts.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods (continued)	2. Place Value Concepts and Division Algorithms			✓				As noted in: Robert G. Underhill, Teaching Elementary School Mathematics (Columbus, Ohio: Charles E. Merrill Publishing Company, 1972.)
	3. Addition, Subtraction, K-6			✓				3.1 Given four subtraction questions you will be able to select the type of diagram appropriate for representing the solutions of three of them.
				✓				3.2 Given the descriptions of four addition-subtraction activities, you will be able to indicate whether each provides the child with a concrete, semi- concrete, or abstract learning experience.
	4. Multiplication-Division Concepts and Multiplication Algorithms, K-6			✓				4.1 Given a multiplication or division fact, you will be able to show four of the five ways it can be introduced.
				✓				4.2 Given a division fact, you will be able to illustrate and label the quotient by quotient by measurement and partition.
				✓				4.13 Given four multiplication-division activities, you will be able to tell whether three are concrete, semiconcrete, or abstract learning experiences.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods (continued)	5. Metric & Non-Metric Geometry, K-6			✓				As noted in: Robert G. Underhill, Teaching Elementary School Mathematics (Columbus, Ohio: Charles E. Merrill Publishing Company, 1972).
Math Methods Evaluation	1. Types, Purposes, and Characteristics of Diagnostic Instruments			✓				1.1 Given three mathematics topics, you will be able to suggest the nature and purpose of each of the four types of instruments relative to one of them (survey, group analytic, clinical, affective).
				✓				1.2 Given matching statements about the types of diagnostic instruments, you will be able to respond correctly to 80% of them.
				✓				1.3 You will be able to list at least 3 general affective areas.
				✓				1.4 Given three general affective areas, you will be able to suggest two fairly reliable indicators for each of two of them.
				✓				1.5 You will be able to list at least five sources of information about the learner.
				✓				1.6 You will be able to list at least five types of information about the learner.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods (continued)	2. Survey Tests				✓			2.1 Administer, score and interpret survey test results.
	3. Teacher-Made Analytical Tests			✓				3.1 Choose a topic such as "addition algorithms on the set of whole numbers" and identify a structual sequence of increasing order of complexity.
					✓			3.2 Construct a group analytical test.
					✓			3.3 Administer a group analytical test.
				✓				3.4 Summarize and interpret the results of a group analytical test.
				✓				3.5 Critique teacher made analytical diagnostic tests with peers.
					✓			3.6 Construct an individual analytical test.
					✓			3.7 Administer an individual analytical test.
				✓				3.8 Summarize and interpret the results of an individual analytical test.
	4. Clinical Evaluation						✓	4.1 Collect data on a given child.
				✓				4.2 Discuss the data collected.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator		OBJECTIVES
Math Methods (continued)	5. Affective Evaluation				✓			5.1	Administer an affective evaluation instrument.
				✓				5.2	Score, interpret, and discuss the results.
Math Methods Teacher Dominated Instruction	1. Developing Understanding of Mathematics Vocabulary			✓				1.1	Identify a math topic.
					✓			1.2	Write a lesson plan which develops your topic.
					✓			1.3	Use concrete materials when teaching your topic.
					✓			1.4	Use semi-concrete materials when teaching your topic.
					✓			1.5	Use a game to practice your topic.
					✓			1.6	Use instructional activities which exemplify "good teaching" as defined in the course.
						✓		1.7	Teach a topic, i. e., enable a learner to acquire it.
	2. Teaching Mathematics Generalizations and Principles			✓				2.1	Identify a mathematics generalization or principle.
					✓			2.2	Write a lesson plan which develops understanding of a given generalization or principle inductively.
					✓			2.3	Use concrete materials when teaching a generalization or principle inductively.
					✓			2.4	Use semi-concrete materials when teaching a generalization or principle inductively.
					✓			2.5	Use a game which practices or requires use of the generalization or principle.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods (continued)	2. Cont.				✓			2.6 Use activities which exemplify "good teaching" as defined in the course.
						✓		2.7 Enable a student to understand a generalization or principle, i.e., teach it!
	3. Teaching Algorithms			✓				3.1 Identify a mathematics algorithm.
				✓				3.2 Suggest a sequence of three behavioral objectives which develop the algorithm (1 concrete, 1 semi-concrete, 1 abstract) and two concrete and semi-concrete aids.
						✓		3.3 Teach the algorithm.
Math Methods Teacher Mediated Instruction	1. Teaching Through Modules				✓			1.1 Create a module which satisfies the criteria outlined in Appendix D.
				✓				1.2 Critique two modules made by others.
					✓			1.3 Use a module to teach one or more children.
				✓				1.4 Critique the use of your own module.

COMPONENT	MODULE	Required	Optional	Cognitive	Performanc	Consequenc	Explorator	OBJECTIVES
Math Methods (continued)	2. Laboratory Activities				✓			2.1 Given a mathematics concept, generalization or algorithm, you will be able to create at least two math lab activities which are related to it, at least one of which is a discovery activity.
					✓			2.2 You will utilize the lab activities in instructing one or more children.

INSTRUCTIONAL MODULES

Instructional modules were developed to facilitate student achievement of the objectives and competencies identified on pages (144-186). These were published and supporting audio-visual materials selected or designed. Each module included five parts:

(a) Prospectus, which includes a clear statement of why the module is important, the basic assumption upon which it was designed, an outline of the module, listing of prerequisites, and information on completing the module.

(b) Objectives, each of which is stated in clear unambiguous terms which stipulate what the learner is to demonstrate upon completion of the module.

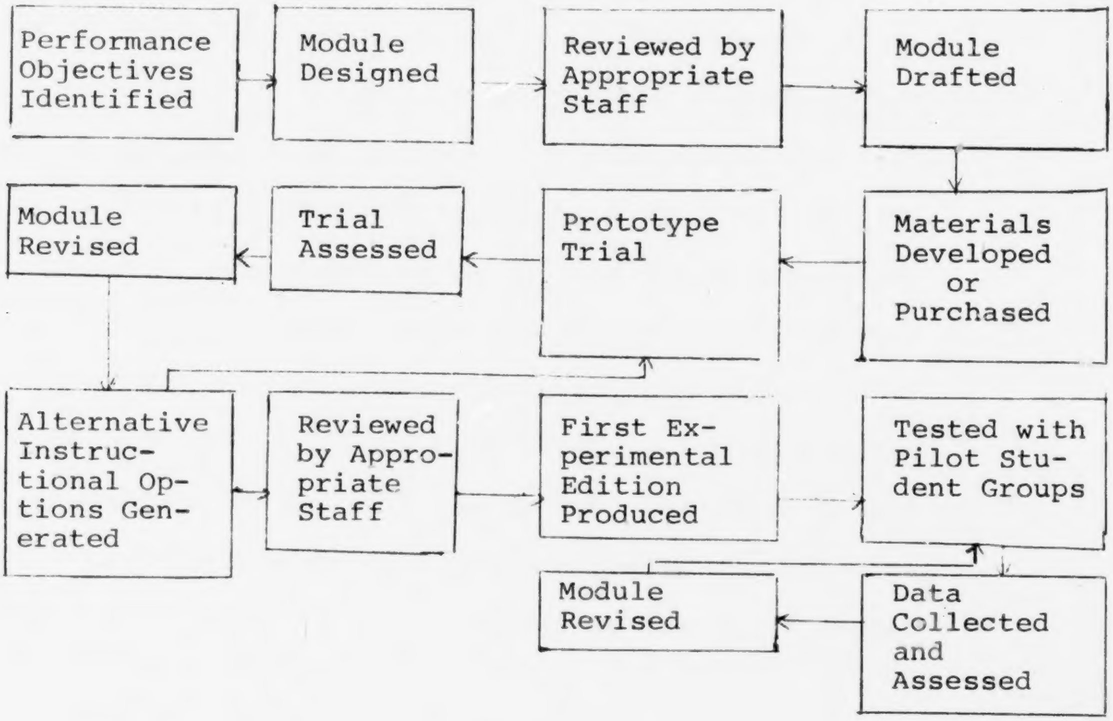
(c) Pre-assessment which includes two dimensions. The first measures the extent to which the learner already has mastered prerequisites to the module. The second dimension lists his competence in meeting the objectives of the module itself.

Pre-assessment may require demonstration of competence by successful completion of written or oral tests, performance of tasks, reaction to simulated episodes, or simply questions which elicit participant interests or needs.

(d) *Enabling Activities* which specify alternatives for attaining module competence. In addition to those activities identified by module developers, *the learner may identify an alternate procedure* for meeting specified objectives. *The emphasis is on demonstration of a competence, not simply participating in an activity*.

(e) *Post-assessment*, like pre-assessment, is related to module objectives. Completion of a module is signalled by successful demonstration of competence on the post-assessment.

Modules were developed through a process which can be diagrammed as follows in Figure .


Performance Objectives Identified
Module Designed
Reviewed by Appropriate Staff
Module Drafted
Materials Developed or Purchased
Prototype Trial
Trial Assessed
Module Revised
Alternative Instructional Options Generated
Reviewed by Appropriate Staff
First Experimental Edition Produced
Tested with Pilot Student Groups
Data Collected and Assessed
Module Revised

Eight characteristics are representative of modules. These are: a) objectives are identifiable and known both to the instructor and the learner; b) a procedure is outlined for demonstrating competence prior to engaging in module learning activities; c) typically, more than one mode of instruction is included to accomodate learning styles; d) students have the option of recommending an alternate mode of instruction to those proposed; e) a module focuses on learner needs, not instructor needs, operational procedures, or organizational patterns; f) a module is discreet, with a beginning and terminal point; g) discrepancy evaluation between objectives and outcomes of the module leads to feedback and module revision; and h) the learner and instructor often jointly select module options.

Several related modules combined are referred to as a component. The component provides a realistic unit of learning for personalizing instruction. The relation between components in the program and the rationale for their inclusion and sequencing are described in Section 4.

In our view, modules are never completely developed, thus all modules are being revised following initial use by students. Through a systemic evaluation process, modules (and each of their parts) are assessed by all those who contact them--designer, students, cooperating teachers. The assessment forms the basis for further development.

Evaluating Modules

Dr. Andrew S. Jackson designed and tested an instrument to assess the viability of instructional modules. The following rationale was written by him. The instrument itself is reproduced on the following pages.

In a Position Paper on the evaluation system for the University of Houston Competency-Based Teacher Center, three basic areas for evaluation purposes were identified. The three basic areas were: (a) the learning environment which consists of the modules, components, and entire system, (b) the learner in terms of their basic aptitudes, and (c) the learning that occurs as measured by Changes in Behavior.

The instrument described in this section is designed to evaluate one part of the first area, the learning environment. Specifically, the developed questionnaire is concerned with evaluating just the module from the consumer's point of view, i.e., the students' point of view. It should be understood that this instrument is not designed to determine if students have achieved important educational objectives. This questionnaire is designed to evaluate the stated purposes of an instructional module. The data from this instrument will be used to identify weakness with a goal of developing a more efficient instructional module. It is quite possible that a module will be very efficient, but not produce student achievement in desirable educational objectives. This questionnaire was not designed to evaluate the third area, the learning that has occurred.

The specific procedures that were followed to develop the questionnaire are summarized below:

1. The basic purpose of each part of a module was identified. The guide developed by Houston et al. was used to identify these purposes.

2. Statements designed to evaluate these identified purposes were generated.

3. The initial draft of the questionnaire was reviewed by three experts in the construction of Modules.

4. Based on these criticisms, the questionnaire was revised.

5. The revised questionnaire was administered to 30 students who had recently completed instructional modules. The students were specifically asked not only to evaluate the module with the questionnaire, but also to evaluate the questionnaire in terms of ambiguity. The investigator interviewed nine students and recorded their specific criticism while the remaining questionnaires were tabulated in the usual manner.

6. The final instrument reflects the criticisms of the pilot with these 30 students.

The level of scaling of the module is nominal and ordinal. It is recommended that the instruments be used to identify the part(s) of a module that students feel is not functioning within its stated purpose(s).

The questionnaire was developed to be used with two answer sheets. The first sheet is to identify the module and provide space for open-ended questions. The second answer sheet should be a Standard Answer Sheet - A (DS1120-A) manufactured by the Optical Scanning Corporation. If the Optical Scanning Sheet is not available, any answer sheet with 30, five response categories (A, B, C, D, E).

References

Houston, W. Robert, Hollis, Loye Y., Jones, Howard L., Edwards, Don, Pace, Ann, and White, Sarah. *Developing Learning Modules*, College of Education, University of Houston, 1971.

Jackson, Andrew S. *Evaluation Procedures: A Position Paper for Competency-Based Teacher Education*, College of Education, University of Houston, 1971.

MODULE EVALUATION QUESTIONNAIRE*

This questionnaire is designed to evaluate the weaknesses and strengths of modules. You are being asked to respond as honestly as possible to the statements. Your responses will be used to develop a better module.

Please do not make any marks on the provided questionnaire. Make all marks on the two provided answer sheets. Please use a pencil when responding on the answer sheets.

On Answer Sheet I, fill in the provided spaces. This Answer Sheet is any comments you may want to make concerning the module. "Blacken-in" under the proper letter on the Optical Scanning Score Sheet the response that Best reflects your feelings. Use spaces 1 to 30 for this purpose.

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*Developed by Andrew S. Jackson, Teacher Center, University of Houston, Houston, Texas.

ANSWER SHEET I

Title of Module ____________________________________

Person in charge of Module _______________ Date ______

ADDITIONAL REMARKS

I. General Information:

1. What is your sex?

   A. Female
   B. Male

2. What is the level you are preparing to teach at this time?

   A. Elementary
   B. Secondary
   C. All level
   D. I am not sure at this time
   E. Other, please name in provided space labeled "Additional Remarks."

3. Without considering the hours to complete the module, over what period of time did you take to complete the module? Consider from the time you initially started to the time when you completed the post-assessment.

   A. One day or less
   B. More than one day, but less than two days
   C. More than two days, but less than three days
   D. More than three days, but less than four days
   E. Four days or more

4. In all, approximately how many hours did it take you to successfully complete the module?

   A. Less than one hour
   B. More than one hour, but less than three hours
   C. More than three hours, but less than five hours
   D. More than five hours, but less than seven hours
   E. More than seven hours.

II. Prospectus:

The prospectus is designed to give the learner a general overview of the module. The prospectus consists of three basic parts: (1) rationale; (2) terminal objectives; and (3) pre-requisites.

5. After reading the rationale, I had a general idea of why this module is important and how it could help me become a teacher.

Strongly agree	A	B	C Not sure	D	E	Strongly disagree

6. By reading the stated rationale of the module, I was motivated to start the module.

Strongly agree	A	B	C Not sure	D	E	Strongly disagree

7. The terminal objectives clearly described the competency I had to demonstrate to successfully complete the module.

Strongly agree	A	B	C Not sure	D	E	Strongly disagree

8. I felt that the terminal objectives were designed to meet the needs stated in the rationale.

Strongly agree	A	B	C Not sure	D	E	Strongly disagree

9. Prior to starting the module, estimate the extent to which you satisfied the pre-requisite behaviors.

All	A	B	C about 50%	D	E	None

10. After completing the module, estimate the extent to which you feel that the pre-requisite behaviors were necessary.

All A B C D E None
about 50%

11. After completing the module, I felt that additional pre-requisite behaviors were needed.

Strongly agree A B C D E Strongly disagree
Not sure

12. Based on the module's general objectives, I had a clear understanding of the steps necessary to complete the module.

Strongly agree A B C D E Strongly disagree
Not sure

13. I had a clear understanding of what was expected of me.

Strongly agree A B C D E Strongly disagree
Not sure

14. When I needed additional help, I had difficulty finding the people on the instructional staff who could help me.

Strongly agree A B C D E Strongly disagree
Not sure

15. The specific instructions concerning the location of instructional media (film strips, books, articles, etc.) were vague or inaccurate).

Strongly agree A B C D E Strongly disagree
Not sure

16. Based on the pre-assessment activity, I decided to attempt the post-assessment activity.

A. Yes
B. No

III Pre-Assessment:

The pre-assessment is designed to determine your areas of weakness and strength in relation to the terminal objectives.

17. The pre-assessment activity aided me in understanding where I needed to focus my efforts.

Strongly agree	A	B	C	D	E	Strongly disagree
			Not sure			

18. The pre-assessment activity and terminal objective were consistent.

Strongly agree	A	B	C	D	E	Strongly disagree
			Not sure			

IV. Learning (Enabling) Activities

The learning activities are designed to produce the changes in behavior so that the terminal objectives will be achieved.

19. Due to the pre-assessment, I felt that I would be able to successfully test-out of the module without completing any of the enabling activities.

Strongly agree	A	B	C	D	E	Strongly disagree
			Not sure			

20. Which learning activity did you select?

A. A stated instructional alternative
B. A student option
C. None, I elected to take the post-assessment
D. There was only one learning activity specified

21. The number and variety of instructional alternatives was sufficient.

Strongly agree ___A___ ___B___ ___C___ ___D___ ___E___ Strongly disagree
Not sure

22. The learning activities presented in the module were responsible for my acquiring the competencies stated in the terminal objectives.

Strongly agree ___A___ ___B___ ___C___ ___D___ ___E___ Strongly disagree
Not sure

23. The learning activity I selected was an enjoyable learning experience.

Strongly agree ___A___ ___B___ ___C___ D___ ___E___ Strongly disagree
Not sure

24. Were any of the enabling activities unrelated to the terminal objectives? If yes, please state the specific activities in the remarks section.

A. Yes
B. No

V. Post-Assessment:

The post-assessment is designed to evaluate successful achievement of the terminal objectives.

25. The post-assessment activity measured the competency stated in the objectives.

Strongly agree ___A___ ___B___ ___C___ ___D___ ___E___ Strongly disagree
Not sure

26. The Post-Assessment activity actually tested the learning activities presented in the module.

Strongly A B C D E Strongly
agree Not sure disagree

27. The level of competency required to successfully pass the terminal objectives was too high.

Strongly A B C D E Strongly
agree Not sure disagree

28. The post-assessment result was a true index of my level of achievement.

Strongly A B C E E Strongly
agree Not sure disagree

VI. General Thoughts

29. In terms of helping me become a good teacher, I would rate this module as:

Strongly A B C D E Strongly
agree Not sure disagree

30. In terms of other courses or modules, I would rate this module as:

A. One of the best
B. Better than average
C. Average
D. Below average
E. One of the worst

31. How do you feel about filling out this questionnaire?

Yuk(**#@#) A B C D E Yea
No feeling

32. In the provided space, please add any additional comments concerning the quality of the module and suggestions for improving the module.

SECTION 6

PREPARATORY PROGRAM DESIGN ACTIVITIES

Introduction

Three key development areas of the three year project are described in detail in this section. The first study, The Crossover Study, describes in detail initial data-gathering which was done to identify the needs of teachers who had "crossed over" to a school having a student body of different race than theirs. This input was invaluable in later program decisions.

A second document, the Prototype Trial of CBTE in Mathematics Education, describes how one curriculum area was impacted by CBTE efforts.

A third document, CBTE and the Counselor, describes the interactive efforts of the counselor education faculty in the undergraduate CBTE program.

CROSSOVER: Implications and Generalizations

Throughout the ages, man has observed that things do not remain static. "The times are changing, and we are changing in them."[1]

Our concern in this report is to suggest implications and emerging generalizations, as well as school and community needs that seem to require adjustments in teacher assignments, performances, and preparations.

We are concerned for the inservice teacher, the one who is yet to be, for all those who are interested in teaching, in education, in growth, and in being more alive while living analytically. It is for all in many related disciplines who see its meaning and can translate it into relevance.

The sole purpose of this study is that of presenting a way of looking at change as needed, a way of dealing with some of its issues and grasping some of its implications.

The suggestions and/or generalizations are not intended as solutions, but as possible alternative approaches in the sincere hope that they may communicate the idea that unless teachers understand the significance of change, they cannot deal effectively with the profound challenges of our dynamic age.

Background

The University of Houston has committed itself to developing and refining a performance-based personalized program for prospective teachers, a consortium responsible for teacher education, a faculty trained to function in such a program, and the necessary dissemination capabilities for interacting with other teacher preparation programs. The Trainers of Teacher Trainers (TTT) Project is perceived as the catalyst in this process. It is designed to impact people, programs for prospective teachers, and institutionalized alignments in teacher education.

The initial focus of the project is on "crossover teachers." In Houston, nearly 4000 teachers were reassigned or employed in the school year 1970-1971 to teach in schools which included subcultures other than their own. Courts had ordered desegregation among faculties so that the faculty racial balance in each school reflects the city's racial balance (two-thirds white, one-third black). Mexican-Americans, who compose about 10 percent of the city but only 2 percent of the instructional staff, were classified as white by the courts; subsequently they initiated school strikes and legal action to force Browns to be recognized as a third group. Crossover is a central concern of teacher preparation.

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[1] Sandford Reichart, Change and the Teacher, (New York: Crowell, 1969).

Relatively few teachers--college, secondary, elementary, or other--are adequately prepared to cope with students of different backgrounds. Teachers typically work with students of their own culture. Students of all backgrounds argue the need for understanding by their teachers.

The basic purpose of the Houston Component is to change people, programs, and institutional structure in such a way that viable, adaptable, more effective preparation programs will result. Within this context, the first purpose is to affect change in education personnel who potentially preside over the source of educational practice.

Six schools were identified as clinic sites for the project. These schools, three elementary and three secondary, represent a wide range of socioeconomic communities, as well as, administrators who are receptive to cooperative ventures and interested in teacher education.

One school was a predominantly brown elementary school near poverty level with a white principal and 31 integrated teachers, of which 15 were white. Another school was predominantly white, upper middle class, with 48 teachers (14 of whom were black), a black assistant principal, and a white principal. A third school was a predominantly black elementary, blue collar lower middle class level with a white principal, a black assistant principal, and 39 teachers, of which 23 were white. The fourth school was a middle class, predominantly black junior high with a white principal, a black assistant principal, and 62 teachers of which 40 were white. A predominantly black junior high with a white principal, a black assistant principal, and 62 teachers, of which 40 were white comprised the fifth school. A predominantly white school in a poverty to wealthy area with a white principal and assistant principal and 107 teachers, of whom 25 were black, was the sixth school.

The Problem

Educating future teachers to work in urban multi-cultural settings requires different procedures and involves varying competencies from those traditionally found. The purpose of the current study was to explore the concerns, problems, needs, and attitudes of teachers who recently were transferred into multi-cultural settings.

Procedures of the Study

During November and December, 1970, over 60 audio-taped interviews were conducted by members of the TTT staff at the

University of Houston. The interviewers were: Miss Carol Cole, Mr. Don Edwards, Dr. Dell Felder, Mrs. Dolores Green, Dr. W. Robert Houston, Dr. Tony Jackson, Dr. Howard Jones, Dr. William Linsley, Dr. William Nesbitt, Mr. Bill Orman, Mrs. Ann Pace, Dr. Tom Pate, Mrs. Sarah White, and Mrs. Eileen Wuycheck. Each was conducted during school hours in a private part of the school. Teachers were notified in advance as to the time and place of the interviews. The persons being interviewed were assured that all information would be considered confidential and anonymous, being used only by the TTT staff for professional and educational purposes. The average interview lasted about one hour; however, some were as short as 45 minutes and one lasted six hours.

The interview form was constructed in such a way to allow maximum insight into the experiences (both positive and negative) of a crossover teaching situation. The information was intended also to benefit professionals in designing more effective teacher training programs.

The questions on the interview form for teachers were divided into several categories, representing relationships found in teaching. These categories included teacher-staff, teacher-student, teacher-teacher, teacher-principal, and teacher-parent.

In the teacher-staff division, most of the questions concerned general feelings and attitudes. For example, teachers were asked how they felt the first time they were notified that they were being assigned to a crossover school. Teachers were also asked to describe their feelings, fears, actions, and relations on the first day of the crossover situation.

The most important area of questioning in the teacher-student category dealt with what the teacher expected from students, whether or not the students responded as expected, and how the teacher reacted to and felt about student responses. The effect of teacher expectations on student behavior was also examined. Teachers were asked several questions relating to specific problems, learning and behavioral, that had occurred. The third general area in this realm was describing a critical incident of some type that occurred in the classroom, including as many details as possible.

Teacher-teacher category questions were rather general in nature. Teachers were asked such things as, what they expected of other teachers, what was expected of them, how they reacted to each other, whether or not they sought help among themselves, and how well they learned to communicate and cooperate with each other.

Under the teacher-principal category, teachers were asked to describe their first attitudes and impressions relating to the principal. Teachers were also encouraged to relate their expectations of the principal and whether or not the principals met the expectations. Further encouragement was given to persuade teachers to relate their ideas concerning the possibility of communications problems between the two factions. Then teachers were asked whether or not anything was being done to improve the situation.

The last category of teacher-parent was concerned with asking teachers how they felt about meeting parents of different races and what they did about their feelings. Teachers were asked to describe their expectations as relating to parent attitudes, support, and assistance. Then teachers were asked to describe whether or not the expectations were met. As a summary for this category, teachers described a specific incident in their relationships with parents.

Following the interview, analysis was made of the audio-tapes. A summary of the salient conclusions was made, with supporting data catalogued for potential use in subsequent analyses and in developing teacher education materials and vignettes.

Summary of Results

Many of the people interviewed had several answers in common, while a few were singular in their responses. The following summary of the data obtained chiefly concerns the similar responses.

Perhaps the most outstanding response was that all crossover teachers were apprehensive. They felt that they had not been adequately prepared for the situations they encountered. Black teachers were apprehensive when considering faculty relationships, as well as disciplining white students. White teachers generally dreaded crossing over because they felt black teachers were functioning below accepted standards. Almost without exception, white teachers quickly learned there were many superior black teachers, as well as some bad ones.

One problem was the failure to understand school policies and procedures in new schools. Ignorance in this area rendered teachers ineffective in their own eyes. Often this seemed to increase discipline problems.

Communication was a serious concern of most people questioned. The first communication breakdown was in the classroom. White teachers frequently were totally unprepared for understanding the black students from a ghetto background. Black teachers did not understand the type of teaching and discipline expected by white students. Neither black nor white teachers understood the Mexican-American students and their background of Spanish-speaking relatives.

Another communication breakdown was found among faculty members, staff, and administration. Teachers generally felt that supervisors did not visit frequently enough or offer needed assistance freely. Teachers also felt that principals were often weak in stating definite rules and objectives for their particular schools. On the other hand, principals and supervisors felt that many situations were beyond their control. Occasionally principals and supervisors were hesitant to take stands on particular issues because they were unsure about the kinds of responses they would receive. White and black administrators did not try to help each other, thereby building another barrier.

Parents and teachers seemed to have communication problems because each one expected more of the other one than could be done. These two groups often did not set aside times to meet, as they should have done, to openly discuss problems and misunderstandings.

Parents particularly stressed the need for teachers to be kind, natural, understanding, positive, open-minded, well-groomed, fair, firm, sincere, tolerant, and communicative. Parents saw themselves as needing to be good citizens, responsible parents, good teachers of responsibility, and disciplinarians. Parents, as one can see, had definite ideas concerning what they thought teachers and themselves should be like.

Teachers ordinarily found parents to be cooperative in helping with student problems when called in. Yet, neither group felt there was a maximum openness of communication.

Students often mentioned two areas that they felt to be most important. One area was fairness. Every student suggested that all teachers should strive to be fair and considerate, especially in solving problems with students. Also, most students wanted teachers and schools to have better discipline. Even though many students said they did not like school, they still wanted teachers to try to understand them and love them.

There seemed to be inadequate structuring in crossover schools. These schools particularly needed close supervision in restroom areas, waiting rooms, and in hallways to prevent as much trouble as possible.

Discipline multiplied as a problem in every crossover situation as a result of lack of preparation and understanding. Teachers complained that different cultural groups responded to different punishments in different ways.

From the results of the interviews, one can readily see that there have been many misconceptions on all sides. Similarly, there has been a noticeable lack of preparation for the new problems that each had to face.

Generalizations and Implications

If a major problem of modern man is how to cope with depersonalization, then it is essential that a teacher be human. If a student is to be prepared for the evolving worlds, then an essential attribute of the effective teacher is awareness of the realities of that world. If modern man suffers from intolerable feeling of uselessness, then the teacher must be able to structure and supervise situations where men can engage in useful activities. If estrangement of the races and the classes is a major problem, then the teacher must have the skill to bring persons of different races together and to keep the communications process going until differences are resolved. If the problems of tomorrow are to be understood by learning the lessons of yesterday, then the teacher must be well-versed in history. If art and music are means by which complicated messages are communicated, the teacher needs to be well-versed in these, too.[2]

The results of the interviews clearly defined several implications for teachers. One of the most important implications is that the teacher must be prepared to negotiate interpersonal contracts with students. The effective teacher is a person the students trust.

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[2] B. Orthaniel Smith, Saul B. Cohen, and Arthur Pearl, Teachers for the Real World, (American Association of Colleges for Education: N. W. Washington, D. C.).

If the teacher proves himself to be honest and fair with his students, then they will allow themselves to trust him more.

Providing a wholesome learning atmosphere is very important. To do this, the teacher must first show that he has something valuable to offer to the students, and he must willingly share the valuable knowledge and experiences that he does have. Learning can also be more enjoyable if the teacher learns to vary classroom activities and to make all of the activities learning experiences. The teacher can foster greater desire to learn by being genuinely concerned about the students. One particular activity that frequently makes learning easier in a mixed group, especially in a crossover situation, is role-playing because almost any background facilitates ease in assuming a role.

Teachers must have the ability to conceptualize and analyze. Their success frequently depends upon whether or not they are able to understand the particular situation, analyze it, and work upon the conclusions.

Along these same lines, a teacher must be able to diagnose problems, to devise programs to remedy the situation, and to evaluate the successes of these problems. Problems faced by the teacher that may require the above actions are black insistence on control of local schools, student resistance to control on the campus, teacher militancy, resistance of tax payers, reluctance of suburbanites to cooperate with moves toward integration, and political success of simplistic slogans such as "return to fundamentals."

A teacher must also be able to diagnose, work with, and evaluate problems with students. Special motivations, attitudes, language systems, and conduct systems peculiar to children of various income and cultural groups should be understood by the teacher so that he may provide the best opportunities possible for education for each group.

Above all, the teacher should be willing to work with any income or cultural group. No teacher should ever allow himself to feel any resentment toward any child because of his background and social class position. Prejudice has no place in the classroom. In working with all types of children, the teacher should also learn to adapt his teaching to fill the needs of each student and to compensate for the lack of certain kinds of experiences in the lives of the students.

To be a successful instructor, a teacher must learn to communicate with other teachers, students, parents, and the administration. A teacher can communicate better when he is sincere in trying to perceive the feelings and attitudes of those with whom he comes into contact. Open communication lines can serve to help solve problems that do occur.

A teacher must be cognizant of the fact that as a teacher he serves as a link with the dominant culture; a model; and an initiator, director, and evaluator of learning experiences. As such, the teacher should have made adequate preparation so that he can set the standards, fix the boundaries, and establish the routines for his classes to promote maximum opportunity for learning.

The college student who is preparing to be a teacher should consider the items deemed necessary for the making of a good teacher. The teacher training institution should set up programs under the guidelines used to determine the worth of a teacher.

Prospective teachers should be brought into contact with reality through various training experiences and actual encounters with children in a classroom. This will help them realize the importance of recognizing individual differences among students. Colleges might even begin to require specific numbers of hours to be spent in real classrooms before student teaching. Student teachers should receive a substantial proportion of their teacher education within public school settings. In these teacher education centers, professional teacher educators may work within systems as partners and as teachers of teachers, preservice and inservice. An internship program, with pay, should be provided student teachers. Hired as aides or preparatory teachers, they could assume responsibility for student discipline and grades.

Learning how to pace themselves to teach different levels of learning is very important for student teachers. They must be trained to vary their teaching approaches to fit the group. Student teachers should receive training in the use of a variety of instructional resources. Films and television collections, computer-aided instruction, simulation, models, and various information and concept-oriented laboratories must be utilized.

Courses in cultural and language differences would be beneficial for prospective teachers. They could learn better what to expect from different types of students in the classroom. In addition to this, study could be made of the effectiveness of different types of discipline as applied to different cultural and socio-economic groups. The prospective teachers would be learning to have a greater respect for different languages and behavioral patterns.

As any good teacher should do, prospective teachers should become avid readers consumed by history and by language, conversant with scientific principles, and at home with mathematics. A demonstration of excellent reading habits could possibly influence children to enjoy reading.

School systems themselves should make a much needed effort to provide as ideal a teaching situation as possible. To do this, the system should lower the teacher-pupil ration, especially in culturally disadvantaged schools, in order that teachers have the basic opportunity for realistically meeting the students' unique characteristics that influence their style of learning. Careful teacher selection should be made to enhance a better learning situation. Hostile teachers have no place in the classroom. As far as possible, teachers should be chosen who have behavioral styles that develop students with learning situations that are positive, stimulating, and encouraging. Training should be provided for teachers and students to enable them to survive in a hostile environment.

The schools that will have the greatest impact for providing meaningful learning experiences for their students will change their curriculums:

> From a curriculum that is pre-packaged, rigidly scheduled, and uniform throughout a school system
> To one that is flexible and geared to the unique needs of individual schools within the system.
>
> From a curriculum that is primarily symbol based
> To one that is primarily experience based.
>
> From a horizontally programmed disjointed sequence of skills
> To a vertically programmed small-step sequence of skills.
>
> From a curriculum that is past- and future-oriented
> To one that is immediate-oriented.
>
> From a completely academic curriculum (knowing)
> To one geared to social participation (doing).
>
> From an antiseptic curriculum
> To one that attempts to explore reality.
>
> From emphasis solely on cognitive, extrinsic content
> To an equal emphasis on affective, inner content.[3]

Further improvements can be made in the school system by revising school curriculum to make success easier. Inservice experience based more on skills in the affective and psychomotor domains should be developed. The school systems should provide opportunity for parents and community to offer advice, aid, and assistance in furthering the development and progress of its schools.

Attention should be given to the students themselves. They need a flexible curriculum that allows them to improve themselves within their individual differences rather than being put into a mold of what the school thinks they should be. The students deserve to have a variety of activities, approaches, and learning situations to allow them the maximum number of opportunities for learning. Students would benefit from a natural learning process in which truths are gained through insights and experiences. Having teachers who sincerely treat students as human beings, have awareness, dignity, humor, and love would make a tremendous contribution toward a fuller, more satisfying learning experience for students.

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[3] Maria D. Fantini and Gerald Weinstein, Toward a Contact Curriculum (Anti-Defamation League of B'Nai B'rith, 1969).

Conclusions

The current educational issues brought about by school desegregation often place great pressures upon the school to "innovate." However, too many schools innovate programs that more often than not appear unconcerned with the humanity of the classroom. In many cases, the proposed changes have to do with the form of the school rather than with its spirit. Many of them lack adequate definition of purpose and of value. Many of them are concerned about curriculums and teaching methods that continue to provide instruction for "majorities," without provisions for the "minorities." Many of them are resigned to treating a portion of their school population as "outsiders," and too often are not concerned with planning school programs to meet the developmental needs of all their young citizens.

Still, there are those schools who are faced with the dilemma of providing sound educational practices for all of its youth. However, their personnel lack the special training and understanding needed for teaching student populations with varied experiential backgrounds.

In either case, it seems that a section of our school population is destined to suffer generations of educational deprivation.

The TTT role as mediator of innovative forces is, therefore, an important one. The nature and courses of educational changes, in many instances, will depend heavily on the kind of leadership it provides. It will be a grave mistake to leave to the "special pleaders" and pressure groups the decisions about the direction school innovations will take, and the kind of teacher training programs that will be presented. It is important that assistance be provided, in order that the historic authority of the local school district be retained in the positive determination of curriculum, teaching materials, and instructional methods for all of its school population. It is also equally important that teachers whose roles have been to teach in a successful manner as to instill learning in their learners, not be circumvented.

Finally, we plead for the school system that will not surrender its humanistic quality. Historically, the public school, more than any other institution in American society, has nourished this nation's concern for individuality. It must not now be lost in a culture that presses increasingly toward standardization and impersonalization. If this human dimension of development is to be relevant to the needs of individual human beings, the responsibility for its curriculum must rest where it always has been -- in the hands of the only people who day-to-day confront the learner as an individual human being in the full context of his real world, the classroom teacher.

Lest the educators be concerned that we have overemphasized humanism, we are reminded of Toynbee's obversation:

Man is astonishingly good at dealing with the physical world, but he is astonishingly bad at dealing with human nature; therefore, an inch gained in the understanding of and command over human nature is worth a mile in the general understanding and command over physical nature.

PROTOTYPE TRIAL OF CBTE IN MATHEMATICS EDUCATION

Beginning during the spring, 1971, the mathematics education faculty began designing and modifying a competency-based program for undergraduates. This was done concurrently with efforts to design a total program for undergraduates which is described elsewhere in this report. In this aspect, parts of the program could be prototype tested along with the procedures used in its implementation and student reaction could be assessed.

During the spring semester, 1971, sixty prospective elementary teachers were enrolled in the three-semester credit course in mathematics education. Prerequisites for this course included Mathematics 365 and 366, Curriculum and Instruction 362, and Foundations of Education 361. Early in the course, students completed diagnostic tests designed to test their understanding of prerequisite concepts.

On the basis of the test results from prerequisite mathematics course, small groups were organized to provide learning experiences to strengthen the weak areas in basic mathematics concepts. Students learned to help each other, as well as themselves. Individual activities were also available. A retest could be taken at any time on those portions which had not been passed in the initial screening.

Program Objectives

A total of 49 objectives were constructed to facilitate the greatest level of accomplishment in the CBTE mathematics program. Objectives were divided into four categories, including three criterion-referenced objectives -- cognitive, performance, and consequence -- and one type of experience objective -- exploratory -- that provided for specific outcomes not prescribed in advance. Some objectives were prerequisite for others. Different objectives required different degrees of competency. Each objective included a packet of various activities to be completed.

At the cognitive level, students demonstrated knowledge and intellectual skills. The cognitive objectives included:

a) Given a list of math topics and a developmental level of the learner, list and defend the choice of at least two instructional materials that could be used effectively teaching that topic to the learner.

b) Given a list of instructional materials, classify them according to categories that range from concrete to abstract with 90% accuracy.

c) Given a set of instructional materials and a set of math topics, select a material to be used in teaching each topic and illustrate how the material will be used.

d) Given the classification of digital materials and analog materials, list and justify at least five instructional materials under each classification.

e) Given the learning theories of Jerome Bruner and Robert Gagne, distinguish between them and describe their implications for mathematics education.

f) Given a list of mathematical behavioral objectives and two identified mathematics programs, describe in writing where the given objectives are taught.

g) Given an arithmetic concept, identify and sequence in writing the enabling concepts.

h) Given the arithmetic operations of addition, multiplication, subtraction, and division, illustrate two algorithms for each operation with whole numbers and rational numbers.

i) Given a grade level, list procedures and materials, including the source, for establishing a math lab.

j) Given two math games, describe the concepts for which they are appropriate, rules, instructional procedures, instructional values, limitations and pitfalls.

k) Given an objective, outline a deductive lesson or an inductive lesson.

l) Given a math topic, outline a lesson which utilizes number patterns.

m) Given the set of criteria, describe achievement, intelligence, attitude and diagnostic tests, listing the purposes of each.

n) Given the set of criteria, describe the basic principles for administering, scoring, and interpreting mathematics achievement, intelligence, attitude and diagnostic tests.

o) Given the purposes for achievement and diagnostic testing, list and discuss at least three differences between testing for achievement and testing for diagnosis.

p) Given a concept level and a student population,construct a diagnostic test for this area with a minimum of two errors.

q) Given a student's cumulative file, state at least five reasons for low achievement in mathematics.

r) Given a module for children developed by someone else, work through the module and prepare a written critique.

s) Given a choice of concept and an identified population, work with four or five peers and develop a written plan for a learning module which includes the identified characteristics of a learning module.

t) Given a set of criteria (characteristic specifications such as alternative routes) with which to evaluate a learning module, evaluate one's own prepared module plan in writing.

u) Identify the grade level one wants to teach and justify the choice in writing by identifying personal, professional, and mathematical strengths.

Performance level objectives were met by students as they demonstrated that they could do something rather than just know something. Below is a list of the performance objectives included in the CBTE mathematics program:

a) Given a choice of instructional materials, math topic and student population, plan and teach to a peer group a mini-lesson (30 minutes or less) that progresses from concrete materials to abstract materials.

b) Given a mathematical topic, plan and teach a micro-lesson (30 minutes or less) using digital materials and a micro-lesson using analog materials.

c) Given a list of procedures and materials for establishing a math lab, collect and/or construct the listed materials.

d) Given the procedures and materials for a math lab, operationalize and operate the lab for a period of at least twenty clock hours.

e) Given a peer group, teach them a math game.

f) Given an objective, teach a lesson using a deductive procedure or an inductive procedure.

g) Given a math topic, teach a lesson which utilizes discovery of mathematical patterns.

h) Given a small group of students and a choice of concept areas, administer and analyze an appropriate diagnostic test.

i) Given a small group of students, select, administer, and evaluate the results of an effective process designed to evaluate the students' attitudes toward mathematics.

j) Given a small group of students and the results of a diagnostic test, an attitudenal assessment process, and each student's cumulative record, make recommendations for future mathematical programs for each student.

k) Given the recommendation resulting from an analysis of the results of diagnosis, construct learning activities designed to enable the student to attain the desired objectives.

l) Given one's own plan for a learning module, produce (along with four or five peers) a learning module which included all necessary material so that the module can be put into operation.

m) Apply a self-developed self-assessment system which includes criteria on judging the amount of participation of the learner in each of the four major areas in this course.

With consequence objectives, results were assessed. What the learner accomplished was judged rather than what he knew or did. Consequence objectives in the program were:

a) Given a small group of children and a choice of instructional materials, plan and direct an instructional program that introduces a new concept and develops over half the group to a point where they are using abstract materials with the concept.

b) Given a group of children, teach a lesson using the directed discovery approach, identify the educational decisions mode in the lesson, and write a justification for these decisions.

c) Given one's own lesson which utilizes number patterns, identify the decisions made when teaching the lesson and defend each decision according to a stated educational belief.

d) Given lessons taught by one's self in a deductive or an inductive procedure, evaluate and compare the results.

e) Given a math game which has been taught to them by a prospective teacher, a group of children, independently play the game, and can describe the rules of the game.

f) Given one's own prepared module and three to five children, utilize the module in order to cause the children to reach the stated terminal objective.

g) Given a series of learning activities resulting from diagnosis, designed by him, utilize these to cause the student to attain the designated objective.

Exploratory objectives designated activities in which the prospective teachers were to be engaged. These objectives were:

a) The learner will visit a school using IPI.

b) The learner will visit a school using CAI.

c) The learner will visit an open concept school.

d) The learner will visit with five children individually for 10 minutes each and will record and listen to one interview.

e) The learner will work with a small group of pupils for the duration of the semester.

f) The learner will attend a meeting of the Council of Teachers of Mathematics.

g) The learner will attend a parent association meeting.

h) The learner will visit the home of one of his assigned pupils.

Prospective teachers and faculty members negotiated which of the objectives should be demonstrated. Students could opt for any grade they wished, and renegotiate if they needed to do so.

Table 6.1includes a breakdown of the numbers of objectives from each type of objectives to be demonstrated for the designated grades:

Table 6.1
Grade Distribution by Objective Type

OBJECTIVE TYPE	COURSE GRADE		
	C	B	A
Cognitive level	20	10	9
Performance level	4	12	4
Consequence level	1	2	7
Exploratory level	3	4	6

It was assumed that consequence objectives required a greater depth of understanding than performance objectives, which in turn were more comprehensive than cognitive objectives. Further, it was assumed that if a student could demonstrate a performance or consequence objective, he could also demonstrate the related and contributing lower order objectives. These assumptions are reflected in fewer objectives for the higher grades, but selected from higher order objectives.

Organization

Three faculty and three graduate assistants were assigned to teach the three sections of the course. Rather than handling the sections separately, they teamed the experience, supporting each other by working with their own special area in mathematics education.

The course was organized into instructional modules which were in turn organized into components or clusters of modules.

Each module included alternative learning experiences, one of which was student option. Faculty and students thus could not only negotiate objectives to be demonstrated but also the learning activities to be engaged in.

Five major components were included in the course: instructional materials, curriculum decisions, instructional strategies, diagnosis and evaluation, and planning. After completing a component, a student met with his instructor to reflect on component achievement and to specify the next component to be studied. Recycling through specific modules when the student failed to demonstrate competence provided opportunity for mastery at whatever level the student selected.

Types of Activities

One of the key words in the program was interaction. Students and instructors scheduled conferences with each other. Some student-instructor inverviews were videotaped. Following the interview, the student viewed the videotape, along with a professional counselor. The prospective teacher was encouraged to make comments about his feelings, attitudes, actions, and thoughts during various portions of the interview. The instructor also viewed the interview in the presence of a professional counselor. He discussed his purposes, strategies, and reactions.

In a follow-up activity, the faculty and prospective teachers met together to view small segments of various interview videotapes. The ensuing discussion focused on techniques, problems, feelings, and other pertinent data to improve interviewing procedures. This illustrates one way the faculty demonstrated competencies they were teaching. They also demonstrated the ability to objectively assess their own work -- a skill which was being emphasized with students.

Part of each prospective teacher's activities was to interview five different pupils, make audiotapes of one interview, and critique the audiotaped interview. The faculty-student interviews provided models for the prospective teacher-pupil interviews.

The students participated in a variety of instructional activities. The individual study carrel, the learning resources center of the college, and the mathematics laboratory served as instruction centers. Demonstrations, programmed instruction, simulated experiences, testing, films, and group discussions occurred at the College of Education while other activities occurred at Turner Elementary School, the school site for the program.

Turner Elementary School served as the field setting for interviews, tutoring, mathematics labs, and reality testing of hypothesized instructional outcomes. The prospective teachers worked under the direction of both college instructors and Turner teachers with pupils whom they tutored or interviewed. In other schools, students observed Individually Prescribed Instruction, Computer Assisted Instruction, and open classrooms.

Several publications have evolved from the experience including three books by Robert G. Underhill, Loye Y. Hollis and W. Robert Houston, and Evelyn J. Sowell. Experiences have also been reported at several national mathematics conferences.

In succeeding semesters, the program has been modified and integrated with generic competencies specified in the main program design operation. Activities have been organized to make them more manageable and to reflect a greater emphasis on consequence objectives and field settings.

During the fall, 1973, one such course will reflect the program modifications during the past three years. The following description serves to contrast the first semester's efforts with those for next fall and to describe important management strategies.

The course will be based upon the textbook Teaching Elementary School Mathematics[1] and its accompanying module booklet, Modules for Teaching Elementary School Mathematics[2]. While the first book is intended to provide a course background, the latter contains the essence of the course, described in terms of components and modules.

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[1] Robert G. Underhill, Teaching Elementary School Mathematics (Columbus, Ohio: Charles E. Merrill Publishing Co., 1972).

[2] Robert G. Underhill, Modules for Teaching Elementary School Mathematics, 2nd Edition (Houston, Texas: University of Houston, 1973).

There are four components for study programs in Modules for Teaching Elementary School Mathematics. The components are:

a) Perspectives -- with three modules

b) Enhancing Your Understanding and Ability to Teach Elementary School Mathematics -- with five modules

c) Evaluation -- with five modules

d) Mathematics Instruction -- with two modules[3]

Within each modules are the following divisions: rationale, objective, pre-test, enabling activities, and evaluation.

There is a projected enrollment of 200 students for the mathematics education class. Instructors will include one senior faculty member from the University, three doctoral students, five undergraduate helpers, and nine classroom teachers. Thus, the supervision ration should be about one to ten. Each of the three doctoral students will receive a stipend and three hours of graduate credit for a weekly seminar. Undergraduate helpers will be those who have completed the course with an A or B and who voluntarily enroll in a "field study" in which they assist students in the mathematics laboratory. Classroom teachers who volunteer will attend five inservice sessions to become acquainted with the program structure and competencies.

Course structure has evolved into three divisions. The first five weeks will be spent on campus involved in a mathematics education overview. It will be an introduction to the important ideas of mathematics education on an intuitive or quasi-theoretical level. Basically, the format for expediting the learning procedures will be lecture, small group discussion, small group discussion for each one-week, three-session period.

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[3] Ibid., pp.

The second division will consist of nine weeks with a three session weekly format of lecture - participation-participation. Students will work with pupils under the guidance of classroom teachers and the college instructors. Pupils will come from the classrooms of those classroom teachers involved. Students also work in the mathematics laboratory. Basically, this division could be referred to as a time of applying theory to actual practice.

The third division will be two weeks in which the format will be lecture-small group discussion-small group discussion for each weekly period of three sessions as in the first division. The ultimate goal of this division will be to enable prospective teachers to synthesize their experiences by relating theory and practice.

At this point one might note that no prospective teacher will be required to attend the lectures. After reading the objective for a lecture, he will have the option of deleting the lecture if he has previously learned that which the lecture will be purporting to teach. Much of the course knowledge will be presented in a series of 26 slide/tapes. Each prospective teacher will be required to participate in the field experiences because general consensus of the instructors is that the field experiences involve new understandings for each prospective teacher regardless of his background or any previous knowledge.

The course is structured in such a way that high level interaction will occur between prospective teachers and pupils during field activity assignments. Interaction among prospective teachers will occur to a limited extent during the mathematics laboratory experiences and to a great extent during the small group discussions.

In determining the grade for each student, the college instructors will place the emphasis on performance. The grading divisions will be: a) 10 percent for university laboratory experiences where prospective teachers demonstrate competencies with mathematics manipulatives, b) 30 percent from public school laboratory experiences where the prospective teachers demonstrate competencies working with children, c) 15 percent from the modules the prospective teachers will construct for use with children, and d) 45 percent from course examinations. There are 23 manipulative objectives in the course. Ten percent of the course evaluation is concerned with these objectives; the prospective teacher will demonstrate competency in 10 of the 23 objectives for a C, in 14 of the 23 objectives to receive a B, and 18 of the 23 to receive an A for this part of his grade. There are seven different areas of testing. All tests are constructed from behaviorally-stated objectives.

At all times the prospective teachers will know where they are and what they are doing due to the nature of the CBTE program. To augment the learning experiences for the prospective teachers, opportunities for them to demonstrate improved performance on all course objectives will be provided.

Three important questions concerning CBTE seem to have been answered with success. The question of how does one obtain a lower supervision ratio has been answered by the differentiated staffing model. The question of what do to with pupils whose tutor is absent is answered through the specific assignment of two people who will be able to handle their own pupils as well as those of absent tutors; they will plan to work with pupils learning basic facts. The third question of how does one make a meaningful experience out of the bits and pieces of a CBTE experience is answered through the structural plan which provides for learning mathematical concepts, building practical experiences, and synthesizing the concepts and practical experiences as described earlier.

One of the most important results of the university laboratory experiences for the prospective teacher is that he experiences success in implementation of a diagnostic model. Teaching in such a model allows him to identify his weaknesses and plan and execute remediation. Further, the course itself operates as a diagnostic model at the university level. Perhaps the most significant aspect is that the prospective teacher will develop an awareness and ability to the best combinations of teaching variables appropriate for his personality. Such a program of study serves to enable prospective teachers to have a greater degree of self-confidence as they enter the classroom as beginning teachers.

The experiences with mathematics education have been repeated with several other subject areas. Science education, particularly, has designed the methods course for undergraduates along competency lines, beginning during 1970-71, and revising experiences each semester during the ensuing three years. Other areas -- social studies, music, reading, language arts, business, etc. -- have made tremendous progress with considerable faculty expenditure of energy in specifying objectives and writing modules.

COMPETENCY-BASED TEACHER EDUCATION AND THE COUNSELOR

Sherry B. Borgers and
G. Robert Ward

Competency-Based Teacher Education (CBTE) programs are often criticized for being mechanistic and dehumanizing; counselors are often criticized for being peripheral personnel. Neither of these criticisms is valid at the University of Houston.

Basic to the Houston CBTE program is the proposition that teaching is an applied behavioral science and that teachers need to understand human behavior and to act in that knowledge. The role of the counselor is related to this proposition; the counselor helps the student to understand human behavior.

If an individual is to understand human behavior, an effective beginning point is self-knowledge; therefore, the counselor focuses on helping the prospective teacher to know himself better. This is accomplished in several ways: a retreat, Personal Assessment Feedback (PAF), video tape feedback (VTF), school feedback, affective modules, consultation with students and staff, and individual counseling.

Retreat

The retreat is designed in such a way that the student has an opportunity to become better acquainted with himself, with other students, and with the faculty. Activities are planned which help the student to gain a greater understanding of self, to understand how his own uniqueness affects the manner in which he acts both as an individual and as a teacher, to begin working as a team member, and to gain an understanding that all (students and faculty) must work together to improve teacher education.

During the retreat and after the student has spent time exploring himself, he is asked to focus on his interaction with others. He chooses a person with whom he would like to work, and they go through exercises designed to establish trust and to encourage sharing. Following these exercises the pair chooses another pair. After this group of four participates in supplementary sharing and trusting exercises, they choose another group of four and form a team of eight which will work together throughout the CBTE program. The team of eight participates in activities which encourage group cooperation, group decision-making, and group cohesiveness.

Once the team members have begun to know and to trust one another, each student is asked to teach a 10-minute lesson to the other team members. This lesson is video taped. It is played back and critiqued by the student, the team members, a counselor, and a curriculum and instruction (C&I) specialist. This experience allows the student to teach a short lesson, to see himself on video tape, to critique his own teaching, and to receive feedback from others. Throughout this experience the atmosphere is supportive and nonthreatening.

After the teaching and feedback, each student is asked to focus on personal strengths and weaknesses of which he is aware and to consider whether or not these have meaning for him as a person and as a teacher. At this point it is emphasized that teacher education is a continuous process -- the student is encouraged to continue his exploration and his growth throughout the program although the retreat is ending.

In addition to planning this retreat, the counselor works with individuals, small groups, and large groups during the retreat. He is continuously monitoring the students with whom he is working and modifying activities so that they are more appropriate. He also has the responsibility to make sure that data are adequately and appropriately processed by the participants.

Personal Assessment Feedback

Currently at some centers of teacher education, a procedure known as Personal Assessment Feedback* is being used to help fit programs to the personal needs of prospective teachers. The goal of PAF is to help the student become more aware of his feelings and his behavior. Students are given a battery of psychological instruments; PAF is based on feedback to the student about his responses to these instruments.

After the students complete the battery, the counselor assesses the data for each student.** A hypothetical profile of the student is derived from these data; the purpose is to help the counselor understand the student and his concerns. Each student is scheduled to see the counselor in order to receive PAF. During the interview the counselor checks his hypotheses derived from the assessment data; however, the assessment data never replace personal observation and experience with the individual. The counselor explains that he will not evaluate but will give some impressions about what the student seems to think and to feel about himself. The counselor also explains that this interview is confidential.

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*Personal Assessment Feedback is described in Counseling Teachers: Personal Assessment Feedback Counseling by F. Fuller and B. Newlove, The Research and Development Center for Teacher Education, The University of Texas at Austin, 1970.

**The procedure for the assessment of test data is described in Counseling Report Manual by S.L. Menaker and C. L. Lewis, The Research and Development Center for Teacher Education, The University of Texas at Austin, 1972.

Although the feedback is based on the student's responses to the tests, PAF is more than test interpretation. The counselor suggests that the student is the authority on himself and encourages him to concentrate on his feelings, his questions, and his concerns. Focus of the feedback is information about self and situations relevant to the student. The counselor and student discuss the student's personal characteristics and how these are relevant to teaching and what the student might do to enhance his strengths and how he might deal with problems. The orientation is developmental, not remedial. The student is scheduled for one interview with the counselor; however, if he wishes he may return after he has had an opportunity to assimilate and to integrate the feedback or at any other time.

PAF is most effective when intermixed with other personalization procedures. In the CBTE program PAF is combined with the retreat activities, video tape feedback, school feedback, and the affective modules. Throughout the program there is an emphasis on feelings, attitudes, behavior, and interpersonal relationships.

Video Tape Feedback

At various points in the program CBTE students are asked to make video tapes of their teaching. Each student then views his tape with a counselor and a C&I specialist. After the tape has been viewed, the three critique the tape in a constructive manner. Although the C&I specialist may tend to focus more on teaching strategy and the counselor may focus more on the student's behavior and interaction with others, both share the same goal -- the goal of VTF is to help the student become more aware of what he is doing and to help him maximize his potential.

Video tape allows the student to see himself as others see him. When an individual is teaching, he may be so involved that he is not conscious of his own behavior. By having a tape of the teaching session, the individual may study and restudy himself.

The purpose of VTF is not to change the teaching but to help the student be more aware of his emotions and behavior and how these affect his ability to relate to others. There is emphasis on helping the student to increase his awareness, not an effort to break him down. Both the counselor and the C&I specialist attempt to create a supportive, nonthreatening atmosphere.

The starting point of the critique is frequently the student's reaction to his tape. The C&I specialist encourages the student to focus on his teaching, and the counselor emphasizes what is occurring on the tape and in the feedback session. The counselor also helps the student to relate the PAF and the VTF. If a student comments on the lack of discipline, the counselor may ask if this is related to the student's need to have everyone like him. Later VTF sessions are frequently related to earlier VTF as well as to PAF since all have a similar focus.

School Feedback

Students in the CBTE program spend much time in the local schools. The counselor and the C&I specialist visit the school at regular intervals to see each student in the actual teaching situation and to provide feedback. A point of emphasis is the student's ability to make the transition from the theoretical to the practical.

In order to add another dimension to this feedback, the cooperating teacher in the school is interviewed and asked about the strengths and weaknesses of the student with whom he is working. This information is incorporated into the feedback sessions, and suggestions based on the cooperating teacher's recommendations are made. Information from pupils with whom the student teacher is working also adds to the feedback; they are asked to complete an evaluation form concerning the way they view the student teacher. The school feedback is related to PAF and to VTF since all are intended to help the student know himself better.

Affective Modules

The affective modules focus on the individual and his relation to himself, his relation to others, and his relation to institutions such as the school. Some of the affective modules are required of all students. Others are prescribed when there is a need for them.

The rationale for the affective modules is that a teacher is a person and there is a need for a person to understand human behavior, both his own and that of others. The emphasis is that teachers do more than teach subject matter; they teach people. In these modules the student is involved in activities designed to help him better understand human behavior. These modules are developed by the counselor so that they are an effective continuation of the awareness activities which began at the retreat.

When a seminar is required in one of these modules, the counselor serves as a seminar instructor; he may conduct a seminar designed to assist students in recognizing and responding to attending behavior in the classroom. If a module requires that students work in small groups, the counselor serves as a group facilitator.

Consultation with Students and Staff

Every student is encouraged to consult with the counselor and with other faculty members. Although consultation is always available, a student most often asks for help when he is having problems in the school where he is teaching. The counselor may make recommendations and suggest alternatives. He may also help the student to assess the needs of the children whom he is teaching and to make decisions based on this assessment. The idea that there is no one correct decision or teaching style is emphasized; instead, each student is encouraged to make his own choices and decisions. The CBTE program stresses that there is no one ideal teacher but many effective teachers.

In consultation the prospective teacher is also helped to know himself better. Frequently the counselor helps the student resolve a problem by helping him to determine how he is involved in the problem and to understand the ways in which his behavior adds to the problem.

The counselor also meets with other faculty members; frequently the pooling of knowledge suggests the best way to help a student. Hopefully, this model of combining knowledge and resources is one which CBTE students will follow.

Individual Counseling

The counselor has not abandoned the traditional role of counseling but has expanded it. Students are encouraged to meet with the counselor individually or in groups if the need arises. The emphasis of this counseling is developmental; students are encouraged to take responsibility for their personal and educational growth with the assistance of the counselor. The counselor may assist the student through individual and/or group counseling, through consultation and through referral.

The University of Houston Competency-Based Teacher Education program attempts to help each prospective teacher know himself, others, and institutions through a retreat, Personal Assessment Feedback, video tape feedback, school feedback, affective modules, consultation, and individual counseling. This self-understanding is crucial for the prospective teacher if he is to understand human behavior and to act effectively in that knowledge.

SECTION 7

EVALUATING STUDENT COMPETENCIES

A major difficulty (if not the major difficulty) in the development and implementation of a CBTE program is the assessment of competence. The necessary step in the alleviation of this difficulty is the identification and specification of program goals, competencies, subcompetencies and objectives which can be more easily assessed.

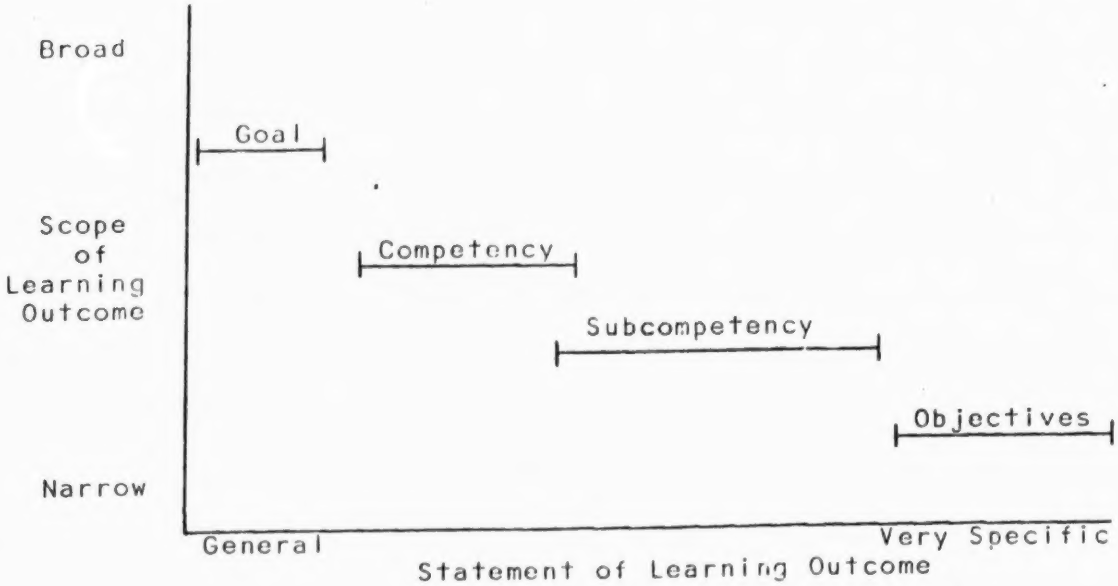

Broad
Goal
Scope of Learning Outcome
Competency
Subcompetency
Objectives
Narrow
General
Very Specific
Statement of Learning Outcome

Figure 7.1 Degree of Specificity of Outcome Statements

Some competencies, subcompetencies and objectives can be stated and assessed fairly readily, while others involve such a complex relationship of teacher cognitive background, decision-making skills, and affective variables as to make them more difficult to evaluate. The latter often relate to more powerful competencies, and assessment is complicated still further by a complex of student values, achievement, and motivation.

As we designed modules and instructional components, objectives could be specified which included the prospective teacher's behavior, criteria for successful performance, and conditions under which the behavior was to be demonstrated. These objectives are listed in another part of this report.

But in internship and pre-internship activities, the range of variables within which prospective teachers were working precluded the use of instruments which permitted us to look at those objectives all students must demonstrate. Some interns were teaching children in middle-class, achievement-oriented neighborhoods, while others were teaching in lower socio-economic communities where schooling was not so stressed in the home. We felt to establish the same standards for prospective teachers would not be equitable.

Further, as we gained experience with competency-based programs, it became quite clear that competencies cannot be assessed directly. Thus, we established a three-stage assessment model.

(1) Competency

(2) Indicators of competency

(3) Assessment of indicators

For each competency, a set of indices were generated. No single indicator would signal competency, but the configuration of them did suggest that the competency had been demonstrated.

Data were collected on selected indicators. These data then were analyzed and, in conjunction with an analysis of data on other indicators, a decision was reached relative to competency demonstration.

For example, one of the competencies was "The intern creates a positive affective climate conducive to optimal learning." Indices were grouped in three categories: (1) those which could be observed during the pre-active period, (2) those intern or teacher behaviors which could be observed while he was actively involved with students, and (3) student behaviors which could be observed during the active phase of the lesson. In each category, a set of four-thirteen indices were identified. When observing students in a situation which affectively supports optimal learning, as an illustration, students (1) appear relaxed, (2) are attentive, and (3) are actually engaged in learning activities. For each of these indices, an observer could collect appropriate data. He might describe student activities every two minutes, make tallies, observe three students selected at random, or complete an interaction analysis scale. These data would then be interpreted to determine whether or not a particular competency had been demonstrated.

The Proficiency Analysis Rating (PAR) instrument is reproduced on the following pages. The staff had identified 12 generic competencies which had grown out of a synthesis of modular objectives. In addition, there was a set for each major subject area for elementary teachers and for the field of specialization in the secondary school. Only generic competencies are included in this section; however, the entire document can be obtained from the project director.

The following two pages summarizes the 12 competencies, with the next 12 pages focusing on each of those competencies.

Name________________________ Date________________ School_______________

Observer_____________________ Subject_______________________

PROFICIENCY ANALYSIS RATING

Classroom Climate

1.0 CREATES A POSITIVE AFFECTIVE CLIMATE CONDUCIVE TO OPTIMAL LEARNING

YES Yes No NO Not Observed

2.0 CREATES A PLEASANT AND COMFORTABLE PHYSICAL ENVIRONMENT IN THE CLASSROOM

YES Yes No NO Not Observed

3.0 ACCEPTS AND USES INTER/INTRA CULTURAL DIFFERENCES TO BUILD SELF-CONCEPT AND TO INCREASE PUPILS' ABILITIES TO RELATE TO OTHERS

YES Yes No NO Not Observed

4.0 POSITIVELY RELATES CLASSROOM MANAGEMENT TO PUPIL INTELLECTUAL, SOCIAL, AND PSYCHOLOGICAL GROWTH

YES Yes No NO Not Observed

5.0 PROVIDES FOR THE USE OF FREE, OPEN COMMUNICATION WITHIN THE CLASSROOM

YES Yes No NO Not Observed

Instruction

6.0 ORGANIZES INSTRUCTION AROUND GOALS AND OBJECTIVES

YES Yes No NO Not Observed

Instruction (continued)

7.0 USES INSTRUCTIONAL STRATEGIES BASED ON PRE-DEFINED OBJECTIVES

YES Yes No NO Not Observed

8.0 COORDINATES ROUTINE TASKS TO OPTIMIZE STUDENT GROWTH AND MAXIMIZE USE OF INSTRUCTIONAL TIME

YES Yes No NO Not Observed

9.0 USES EVALUATION PROCEDURES TO FACILITATE ACHIEVEMENT OF OBJECTIVES

YES Yes No NO Not Observed

Professional Development

10.0 ADAPTS TO NEW OR CONFUSING SITUATIONS READILY

YES Yes No NO Not Observed

11.0 EVALUATES OWN TEACHING BEHAVIOR USING CODING INSTRUMENTS (INTERACTION ANALYSIS, CHECK LISTS, ETC.) AND PLANS FOR CHANGE ON BASIS OF RESULTS

YES Yes No NO Not Observed

12.0 WORKS EFFECTIVELY AS A MEMBER OF AN EDUCATION TEAM

YES Yes No NO Not Observed

Classroom Climate

1.0 INTERN CREATES A POSITIVE AFFECTIVE CLIMATE CONDUCIVE TO OPTIMAL LEARNING

Pre-Active Indices	Active Indices	
	Teacher	Pupils
1.11 Describes and gives rationale for advanced planning for supportive social/emotional climate	1.31 Appears to be comfortable and confident	1.51 Appear relaxed
1.12 Determines points in lesson at which maximum involvement can occur	1.32 Has pleasant facial expressions (smiles when appropriate)	1.52 Are attentive
1.13 Provides for individual recognition and group interaction	1.33 Brings in isolate and encourages all to participate	1.53 Are actively engaged in learning activities
1.14 Analyzes responses and identifies them as evaluation, interpretive, probing, supportive, and/or understanding	1.34 Uses silence effectively	1.54 Appear to enjoy school
	1.35 Calls students by name	1.55 Seem to relate well to teacher and to other pupils
	1.36 Enjoys teaching and working with pupils	1.56 Do not disengage themselves from teacher
	1.37 Appears to like pupils	1.57 Work independently and help each other
	1.38 Works with and helps individual pupils both in and out of class	1.58 Appear satisfied with teacher responses (do not appear uncomfortable or to feel as if they have been "put on the spot")
	1.39 Does not disengage himself from pupils (touch, life-space)	
	1.40 Encourages pupils to independent action	
	1.41 Is accepting of pupil as a person when mistakes are made	
	1.42 Uses the following types of responses appropriately (evaluative, interpretive, probing, supporting, and understanding).	
	1.43 Demonstrates authenticity	

Classroom Climate

2.0 CREATES A PLEASANT AND COMFORTABLE PHYSICAL ENVIRONMENT IN CLASSROOM

Pre-Active Indices	Active Indices	
	Teacher	Pupils
2.11 Plans environments with physical comfort and safety of pupils in mind 2.12 Plans for displays relevant to objectives, pupil interests, and background	2.31 Provides seating arrangements for a variety of interaction/communication patterns 2.32 Arranges or works with pupils to provide colorful bulletin boards and displays 2.33 Provides learning centers for a variety of independent, small group activities 2.34 Provides physical environment which stimulates and facilitates pupil exploration 2.35 Arranges materials and aids so that they are accessible to teacher and pupils	2.51 Appear comfortable, alert (appropriate seating, temperature, ventilation, lighting). 2.52 Follow rules for safety, emergency procedures 2.53 Work during non-structured time periods in learning centers 2.54 Contribute to bulletin boards, learning centers, and other display/discovery areas

Classroom Climate

3.0 ACCEPTS AND USES INTER/INTRA CULTURAL DIFFERENCES TO BUILD SELF-CONCEPT AND TO INCREASE PUPILS' ABILITIES TO RELATE TO OTHERS

Pre-Active Indices	Active Indices	
	Teacher	Pupils
3.11 Considers cultural background of pupil when defining role of pupil, teacher 3.12 Describes pupils in terms of individual characteristics, not in terms of a particular group membership 3.13 Plans to use culture of pupils as a vehicle for instruction and social interaction	3.31 Accepts and interacts with pupils from other cultural groups as often as with pupils from his own cultural group 3.32 Uses instructional materials, displays, etc., that reflect a number of cultural groups, especially those represented in classroom 3.33 Recognizes special days, events, customs, "heroes" of all cultural groups represented in class, and provides opportunities for pupils to study their own and others' culture 3.34 Describes the unique characteristics, needs, of the community in terms of available research 3.35 Describes desires of local community as they relate to educational goals and priorities	2.51 Pupils with different cultural backgrounds interact freely and openly with one another 2.52 Pupils from minority groups speak proudly (not defensively) of contributions made by their culture; describe customs, beliefs, etc.

Classroom Climate

4.0 POSITIVELY RELATES CLASSROOM MANAGEMENT TO PSYCHOLOGICAL PUPIL INTELLECTUAL, SOCIAL AND PSYCHOLOGICAL GROWTH

Pre-Active Indices	Active Indices	
	Teacher	Pupils
4.11 Plans management procedures which (1) facilitate achievement of objectives (2) facilitate achievement of group unity and cooperation and (3) establish group standards and coordinated work procedures	4.31 Maintains or restores group morale	4.51 Manage routine taks themselves
4.12 Identifies ways that pupils cope	4.32 Handles group conflict in a positive manner	4.52 Provide sanctions for behavior that is distracting or nonproductive
4.13 Distinguishes between positive and negative coping behavior	4.33 Uses group properties (cohesiveness, interaction, communication, structure, norms and goals) to facilitate achievement of objectives	4.53 Discuss management problems and offer suggestions, solutions, procedures
4.14 Determines when professional help may be needed and identifies appropriate resource people	4.34 Uses problem solving (group) to improve classroom climate	
	4.35 Works toward changing unacceptable established behavior patterns to those which are more productive	
	4.36 Reacts positively to pupils who cannot get along by communicating a need to use socially acceptable coping behavior	
	4.37 Objectively looks for reasons for coping behaviors other than those which are on the surface	
	4.38 Treats pupils differently, and uses strategies that are appropriate for helping each pupil cope in ways that are positive and constructive	

Classroom Climate

5.0 PROVIDES FOR THE USE OF FREE, OPEN COMMUNICATION WITHIN THE CLASSROOM

Pre-Active Indices	Active Indices	
	Teacher	Pupils
5.11 Identifies activities and situations that can improve communications skills 5.12 Predicts interaction patterns that will be visable in classroom during specified periods of instruction	5.31 Interprets attending behavior of pupils 5.32 Uses and encourages pupils to use a variety of media to communicate ideas and feelings 5.33 Recognizes and provides for a variety of communication patterns in the classroom 5.34 Encourages and reinforces effective individual communications within a variety of modes 5.35 Serves as a communications model in both receiving and transmitting 5.36 Encourages respect for dialects representing different cultural groups 5.37 Demonstrates legible handwriting 5.38 Gives clear explicit directions 5.39 Creates interaction patterns which are consistent with those predicted by teachers	5.51 Communicates ideas and feelings through a variety of media 5.52 Communicates effectively in more than one communication mode or pattern

Instruction

6.0 ORGANIZES INSTRUCTION AROUND GOALS AND OBJECTIVES

Pre-Active Indices	Active Indices	
	Teacher	Pupils
6.11 Identifies goals and objectives through diagnostic procedures	6.31 Works with pupils to help them identify their own goals, objectives, and rewards	6.51 Can communicate objectives toward which they are working by actions and/or verbalizations
6.12 States objectives behaviorally so they communicate to pupils	6.32 Varies objectives and activities based on individual needs of learners	
6.13 Sequences objectives and sub-objectives to provide continuity of pupil development		
6.14 Identifies curriculum slant from which goals and objectives are derived		
6.15 Defends appropriateness of objectives in terms of pupil, school, and community		
6.16 Task analyzes objectives to identify sub-objectives		

Instruction

7.0 USES APPROPRIATE INSTRUCTIONAL STRATEGIES BASED ON PRE-DEFINED OBJECTIVES

Pre-Active Indices	Active Indices	
	Teacher	Pupils
7.11 Designs lesson plans which include objectives, instructional alternatives (activities, materials, tactics) motivation, evaluation, and management procedures 7.12 Rationalizes instructional alternatives (tactics, activities and materials) in terms of objectives and pupil characteristics 7.13 Provides alternative learning settings (e.g., field trips, school, community 7.14 Sequences activities logically and psychologically 7.15 Plans for use of a variety of instructional modes including guided discovery or inquiry, role playing, simulation, gaming, lecture, concept development, demonstration, socio-drama, discussion, skill development or reinforced practice 7.16 Plans to use a variety of instructional organization modes (independent, small group, one-to-one peer, total class, and for groups larger than class)	7.31 Establishes set (motivation transition, classroom environmental conditions) which are varied and appropriate 7.32 Uses explanations, illustrations, statistics, and specific instances appropriate to pupils 7.33 Uses appropriate and varied stimuli (e.g., voice tones, chalkboard, visual aids, models, overhead and slide projectors, movies, and varied interactive styles) 7.34 Asks questions appropriate for level and type of thinking required in objectives (e.g., memory level, higher level, probing and divergent 7.35 Uses appropriately a variety of reinforcement techniques and rewards 7.36 Alters instructional mode when feedback from pupils' indicates (e.g., attending bheavior) 7.37 Provides closure and transactions 7.38 Uses a variety of instructional modes 7.39 Uses a variety of organization modes	

8.0 COORDINATES ROUTINE TASKS TO OPTIMIZE STUDENT GROWTH AND MAXIMIZE USE OF INSTRUCTIONAL TIME

Pre-Active Indices	Active Indices	
	Teacher	Pupils
8.11 Plans for routine classroom tasks 8.12 Plans for pupil instruction in use and care of materials and equipment	8.31 Encourages pupils to identify and manage routine tasks themselves, and to monitor themselves for task completion 8.32 Uses time effectively for routine tasks 8.33 Uses routine tasks as learning experiences for pupils	8.51 Pupils follow routine procedure for submitting papers, collecting money, etc. 8.52 Pupils manage and carry out routine tasks

9.0 USES EVALUATION PROCEDURES TO FACILITATE ACHIEVEMENT OF OBJECTIVES

Pre-Active Indices	Active Indices	
	Teacher	Pupils
9.11 Specifies appropriate formative and diagnostic procedures for the lesson 9.12 Develops a table of specifications for teacher-made achivement tests	9.31 Uses a variety of evaluation techniques to diagnose student weaknesses, evaluate mastery level, and evaluate terminal level over large units of instruction 9.32 Constructs tests from the table of specifications 9.33 Calculates the test reliability 9.34 Calculates an item analysis 9.35 Develops test norms for summative tests	

Professional Development

10.0 ADAPTS TO NEW OR CONFUSING SITUATIONS READILY

Pre-Active Indices	Active Indices	
	Teacher	Pupils
10.11 Analyzes, interprets his own behavioral characteristics in crisis situations 10.12 Accepts responsibility for actions and consequences of actions by not blaming external factors for situations that develop	10.31 Deals with professional conflict in such a way that he does not become ineffective 10.32 Displays tolerance for ambiguity	

Professional Development

11.0 EVALUATES OWN TEACHING BEHAVIOR USING CODING INSTRUMENTS (INTERACTION ANALYSIS, CHECK LISTS, ETC.) AND PLANS FOR CHANGE ON BASIS OF RESULTS

Pre-Active Indices	Active Indices	
	Teacher	Pupils
11.11 Uses video ot audiotapes to analyze certain aspects of his teaching style 11.12 Codes classroom interaction using an accepted validated procedure, and analyzes results	11.31 Demonstrates willingness to alter teaching style when feedback indicates	

Professional Development

12.0 WORKS EFFECTIVELY AS A MEMBER OF AN EDUCATIONAL TEAM

Pre-Active Indices	Active Indices	
	Teacher	Pupils
12.11 Describes the policies and organization of the school 12.12 Describes organizational climate of the school	12.31 Meets deadlines promptly (reports, lists, assignments, etc.) 12.32 Refrains from criticisms of professional colleagues 12.33 Cooperates with other staff members by sharing ideas, materials, observations and critiques 12.34 Assumes equal part in duties and responsibilities 12.35 Participates in faculty meetings if appropriate 12.36 Arrives at school on or before scheduled time 12.37 Follows school policy regarding discipline, emergency procedures, routine safety rules.	

CLINICAL SUPERVISION

The Proficiency Analysis Rating was used in conjunction with a process of clinical supervision. In clinical supervision, the prospective teacher assumes much of the responsibility for self-analysis, with the supervisor acting as data collector and counselor. Decisions become joint ones. For example, prior to an observation by the supervisor, the student and the supervisor decide on the particular competencies to be focused on and the indicators for those competencies which were appropriate.

The supervisor collected data on indicators and, in the post-observation conference, described the data to the prospective teacher. They (1) reached a decision as to the effectiveness with which each competency had been demonstrated in that period, (2) made a tentative appraisal of other appropriate competencies which had not been the specific target of that observation, (3) decided what the prospective teacher might do to improve performance, and (4) decided which competencies would be assessed in the next observation.

A comprehensive training system for providing clinical supervision is being developed currently at the University of Houston and is to be prototype tested during the coming year.

SECTION 8

PROJECT EVALUATION

Introduction

In terms of assessing whether the project developers and implementers reached their specified goals and objectives, the reader must first review the stated objectives of the program. Initially, as described in this report, we proposed to perform three major changes -- changes in people, changes in program, and changes in organizational structure. Section 2 reflects on the plans and efforts to change people involved in teacher education at the Houston Teacher Center. Sections 4 and 5 reflect on the changed program. Section 3 reflects on the changing organizational patterns.

This section reflects on three other assessment documents. The first, the Characteristics of Program Individualization Study, reflects on an external study done by M. Vere DeVault and his staff at The University of Wisconsin, in which Houston Teacher Center faculty, staff, and students were interviewed to determine the program characteristics from teacher/student points of view.

The second and third documents are concerned with student reactions, first toward the role of the counselor, and second toward the total program. The third document was written by a student who completed the program.

CHARACTERISTICS OF INDIVIDUALIZATION IN THE PROGRAM

M. Vere DeVault and his staff at The University of Wisconsin have been exploring the dimensions of individualization in education programs throughout the nation. The work was supported by a grant from the National Institute of Education.

Individualization connotes many different meanings to different people. DeVault has developed a set of instruments to describe as clearly as possible the several dimensions of a planned or on-going program of individualized instruction.

In May, 1973, he and a member of his staff visited the University Houston to assess the CBTE program. Only the first pilot program and students were focused on. At this point, the students were nearing the end of their programs.

In the morning, several CBTE staff members were interviewed and documents perused to elicit a first description of the program. The afternoon was spent with several students who also described the program and reacted to the staff's description. In general, the two perceptions were consistent. Students, interestingly enough, felt there was more freedom for them, more alternatives, and greater flexibility than suggested by the staff.

A general review and report session concluded the day's activities.

The following diagrams and paragraphs are from the preliminary report by DeVault and his staff.

UNIVERSITY OF HOUSTON

The University of Houston Competency Based Teacher Education program has been under development for three years. Funded by both state and federal monies, the program is implemented with a staff extensively involved in the national "movement" toward CBTE. A new teacher education building constructed just prior to the initiation of this program has been especially designed to facilitate the special requirements of CBTE. At the present time, the program has both elementary and secondary components which serve an experimental group. In the fall of 1973 the program will be extended to include all undergraduate teacher preparation students at both the elementary and secondary levels. The program described here is the experimental elementary teacher education program in its second year of operation with sixty students.

Distinguishing features of the University of Houston's CBTE program appear to be the variety of media available throughout the program, the contribution of special counselors who work with individuals and the continuing assessment which is underway through counselor conferences supported by more formalized means of assessment.

The program is modularized. Where activity and media choices are indicated, decisions are typically shared about equally by instructors and learners. Large group and medium group instruction is determined largely by instructors; otherwise students control the nature of the group setting in which they do their work, whether this be working alone or in small groups with or without instructors. A large proportion of instructor time is devoted to small group and individual instruction. Students are working alone in the program about 30 percent of the time.

The program is designed as a set of courses, with each course composed of modules. The sequence of modules within a course is characterized as a network; that is, there are alternative sequences of modules. Except for several cases of pairs of sequential courses, courses may be started at anytime without prerequisite requirements. Thus, the sequence of courses is also characterized as basically non-specified. So the program's sequence of modules may be characterized as a network with learners making the preponderance of decisions regarding module selection.

The rate at which students progress through the program appears to be relatively the same for all. In part this is due to the extent to which semesters remain a functioning time block within the program. Students do register for certain areas of work in a given semester and there very likely is very subtle pressure by sources outside the program itself which encourage students to complete the work of these areas within the semester during which they have registered for credit. There are, however, students who do not complete the four semesters work in four semesters and some who finish in as few as three. Thus the chart for rate shows the first and third quartiles as the same time as that for the mean student, but both the shortest time period and the longest time period differ from this mean.

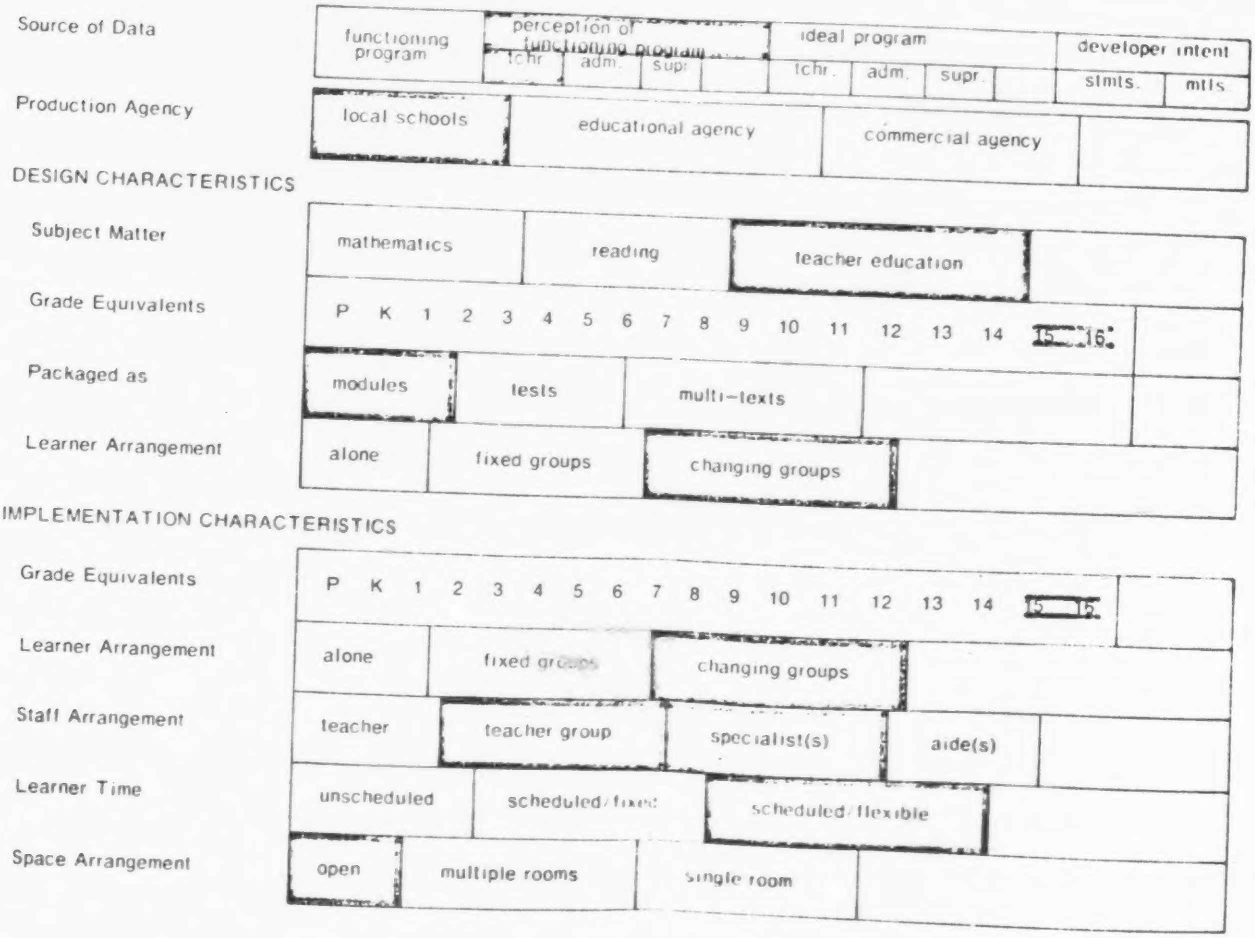
Assessment appears to be relatively extensive and there is some recorded data on assessment on all four areas of competence. Skills and concepts data are recorded, however, only through informal observations; pre and post tests are not recorded except for the notation that a given module has been completed.

The management of the instructional components tends to be formal for aspects which are specified within modules but informal outside those written directions. That is, media specified within the modules represents a kind of formal management style, but where alternatives are available, in a manner not specifically identified within the module, informal arrangements are made either by students or by faculty and staff.

The modules as presented in the program pattern tend to be of two types. On the one hand, the cognitive performance and the consequent modules include pre and post assessment and a variety of instructional modes. When the instructor makes the decision that, given the student's record of success on the post assessment, he has satisfied the requirements, the module is recorded as completed. There is an additional type of module represented by exploratory or affective/expressive activities. These simply provide, without a pretest and without a post test, an experience for the student. Having completed that activity (that experience), the student has completed the module. Decisions to enter this type of module seem to be about equally shared among program specification and choice of learner or teacher.

University of Houston
Elementary Teacher Education Program
Houston, Texas
Operative

PRELIMINARY PROGRAM DESCRIPTORS



Source of Data	functioning program	perception of functioning program tchr. / adm. / supr.	ideal program tchr. / adm. / supr.	developer intent stnts. / mtls.	
Production Agency	local schools	educational agency	commercial agency		
DESIGN CHARACTERISTICS					
Subject Matter	mathematics	reading	teacher education		
Grade Equivalents	P K 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16				
Packaged as	modules	tests	multi-texts		
Learner Arrangement	alone	fixed groups	changing groups		
IMPLEMENTATION CHARACTERISTICS					
Grade Equivalents	P K 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16				
Learner Arrangement	alone	fixed groups	changing groups		
Staff Arrangement	teacher	teacher group	specialist(s)	aide(s)	
Learner Time	unscheduled	scheduled/fixed	scheduled/flexible		
Space Arrangement	open	multiple rooms	single room		

WISCONSIN CENTER FOR THE ANALYSIS
OF INDIVIDUALIZED INSTRUCTION

SCHOOL OF EDUCATION
UNIVERSITY OF WISCONSIN MADISON

M. Vere DeVault
Mary A. Golladay
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Karen Skuldt

Visual Design by G. F. McVey and J. French

KEY

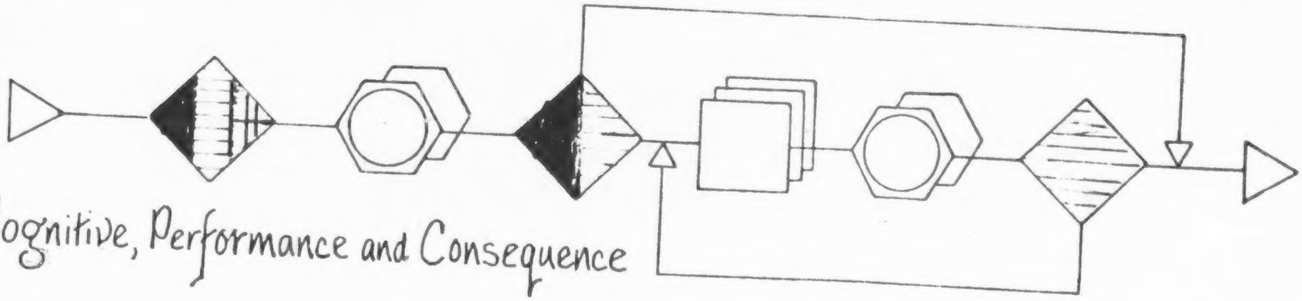
■ Learner determined

☰ Instructor determined

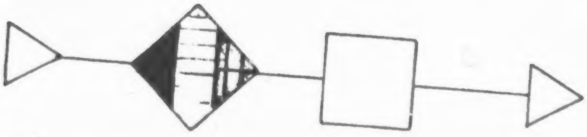
▦ Program determined

▨ Appropriate program descriptor

PROGRAM PATTERN

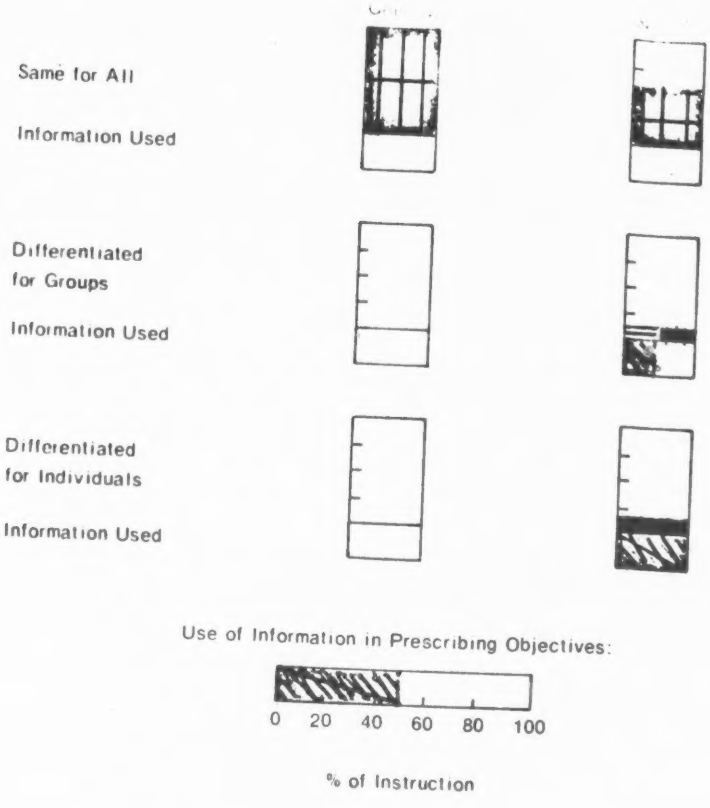


Cognitive, Performance and Consequence

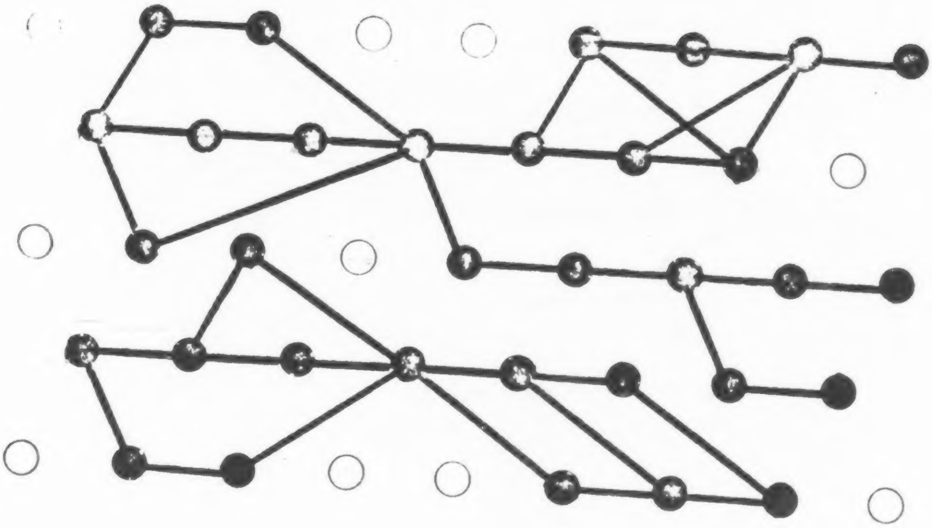


Exploratory

OBJECTIVES

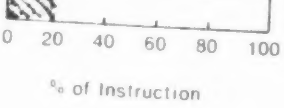

Same for All
Information Used
Differentiated for Groups
Information Used
Differentiated for Individuals
Information Used
Use of Information in Prescribing Objectives:
0
20
40
60
80
100
% of Instruction

SEQUENCE

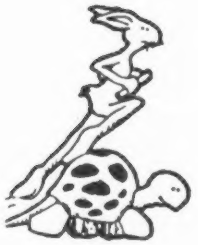


LINEAR BRANCHED [✓ NETWORK] NONSPECIFIED

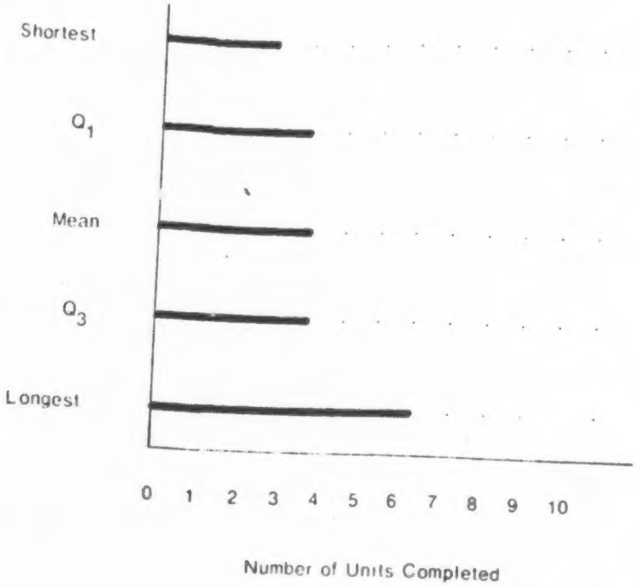
Use of Information in Prescribing Sequence:



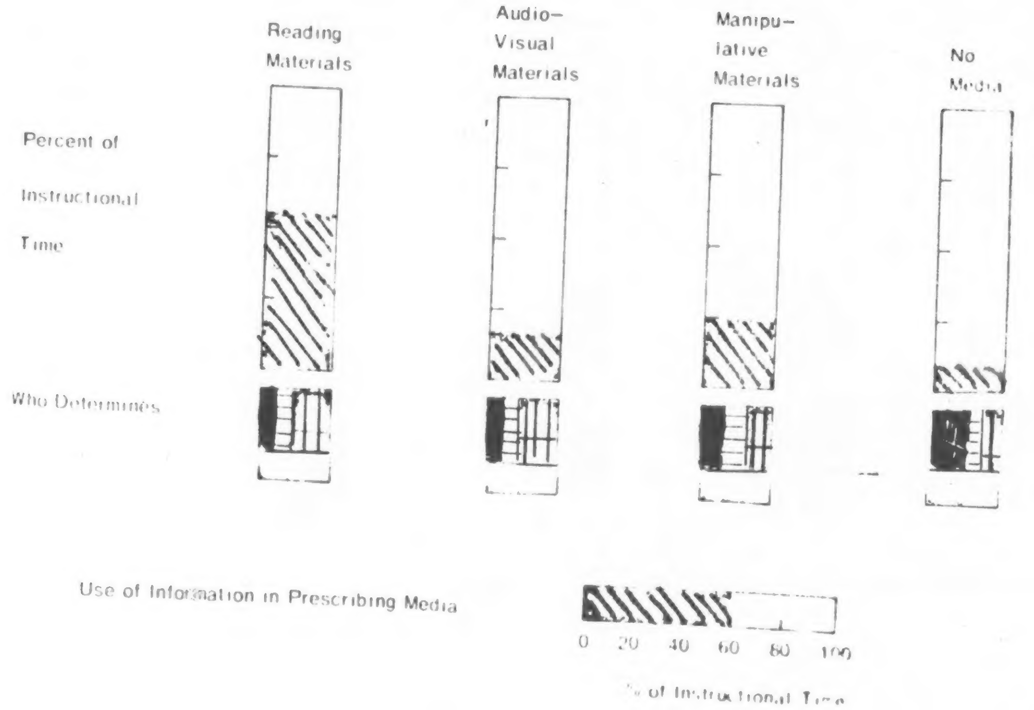
RATE



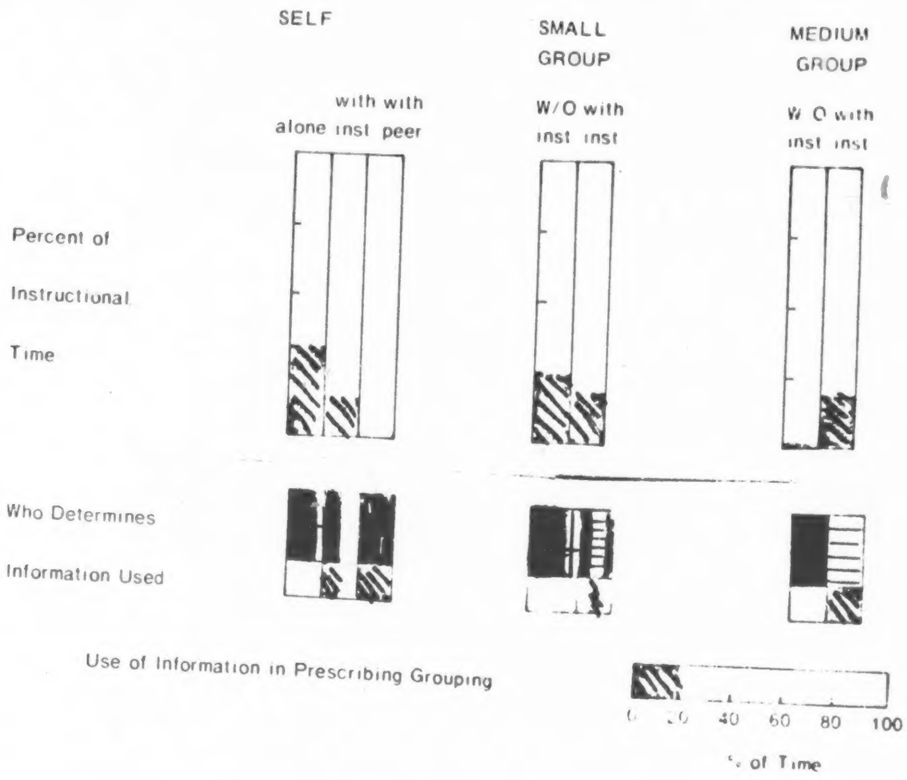
Rate Variability Observed



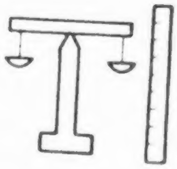
MEDIA

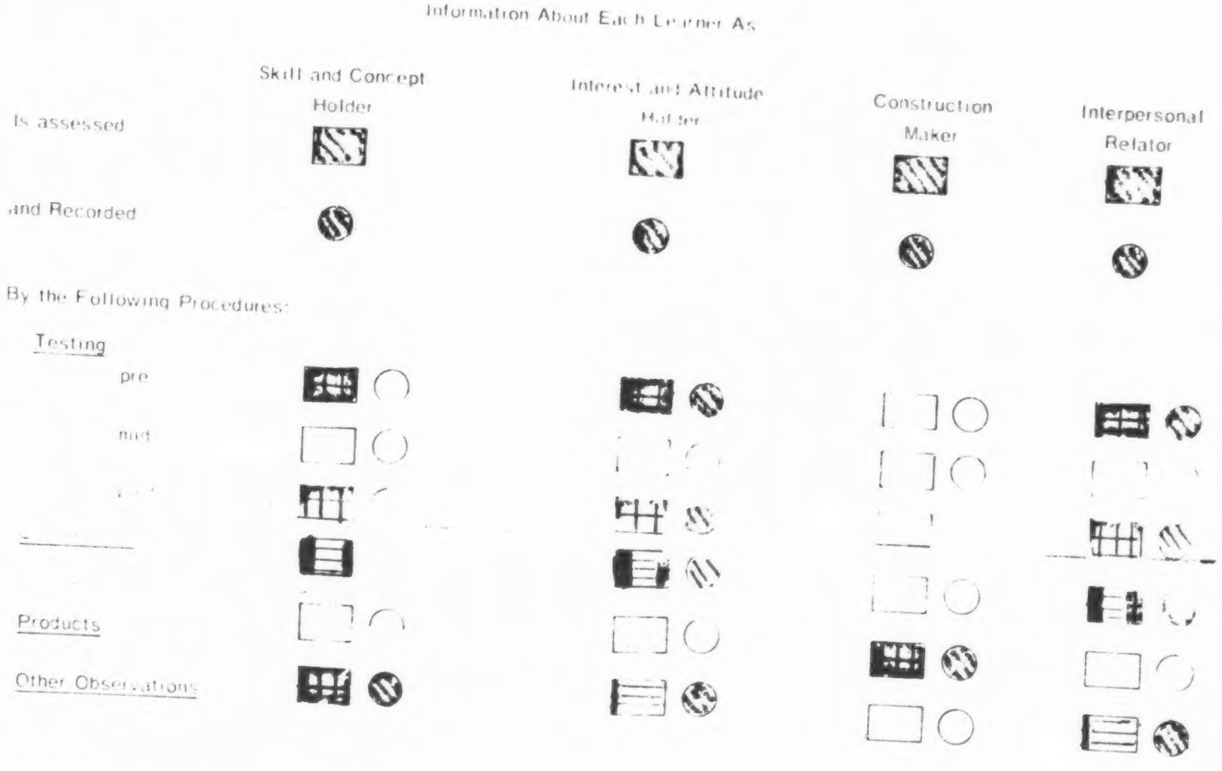

Reading Materials
Audio-Visual Materials
Manipulative Materials
No Media
Percent of Instructional Time
Who Determines
Use of Information in Prescribing Media
0 20 40 60 80 100
% of Instructional Time

GROUPING

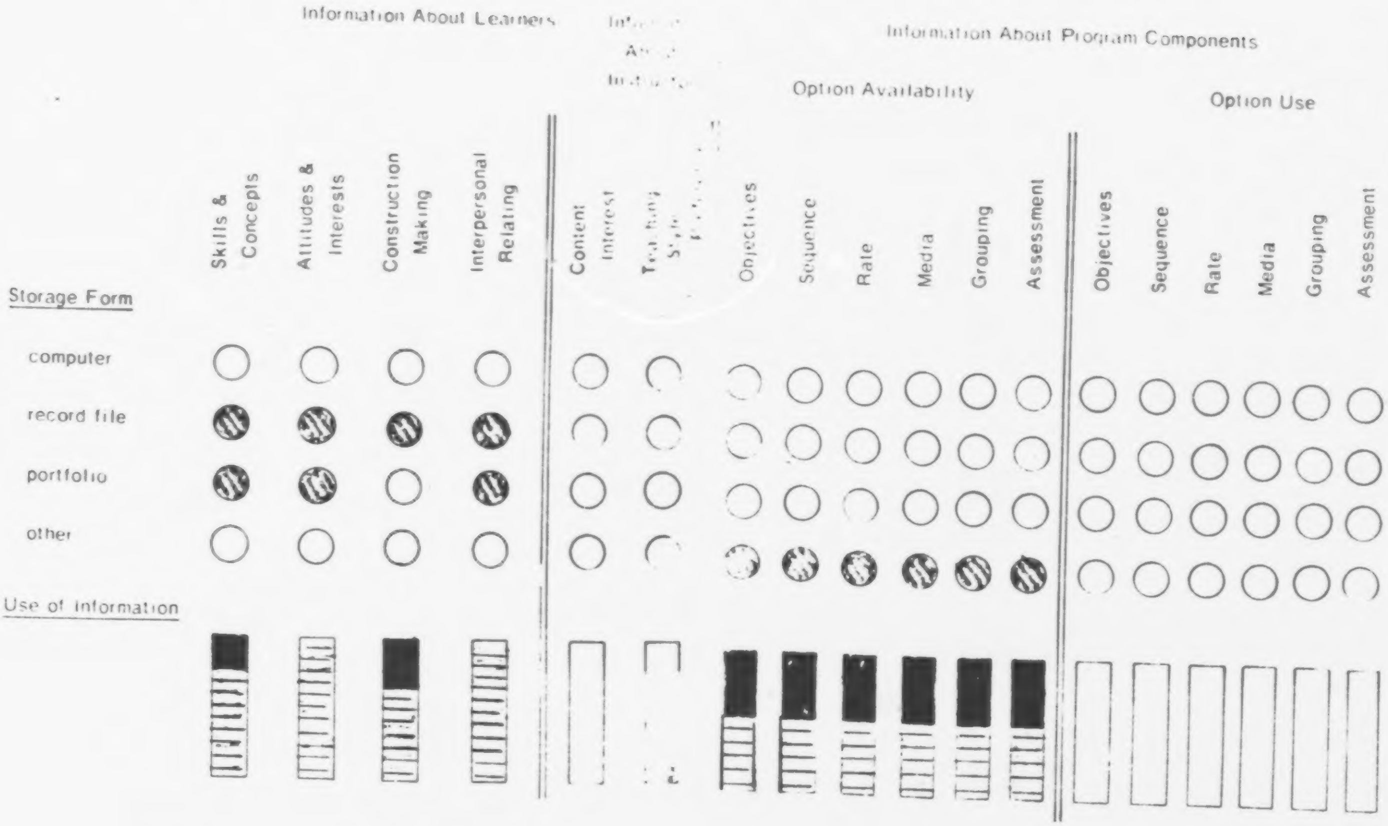

SELF
SMALL GROUP
MEDIUM GROUP
LARGE GROUP
alone
with inst
with peer
W/O inst
with inst
W/O inst
with inst
W/O inst
with inst
Percent of Instructional Time
Who Determines Information Used
Use of Information in Prescribing Grouping
0
20
40
60
80
100
% of Time

LEARNER ASSESSMENT PROCEDURES

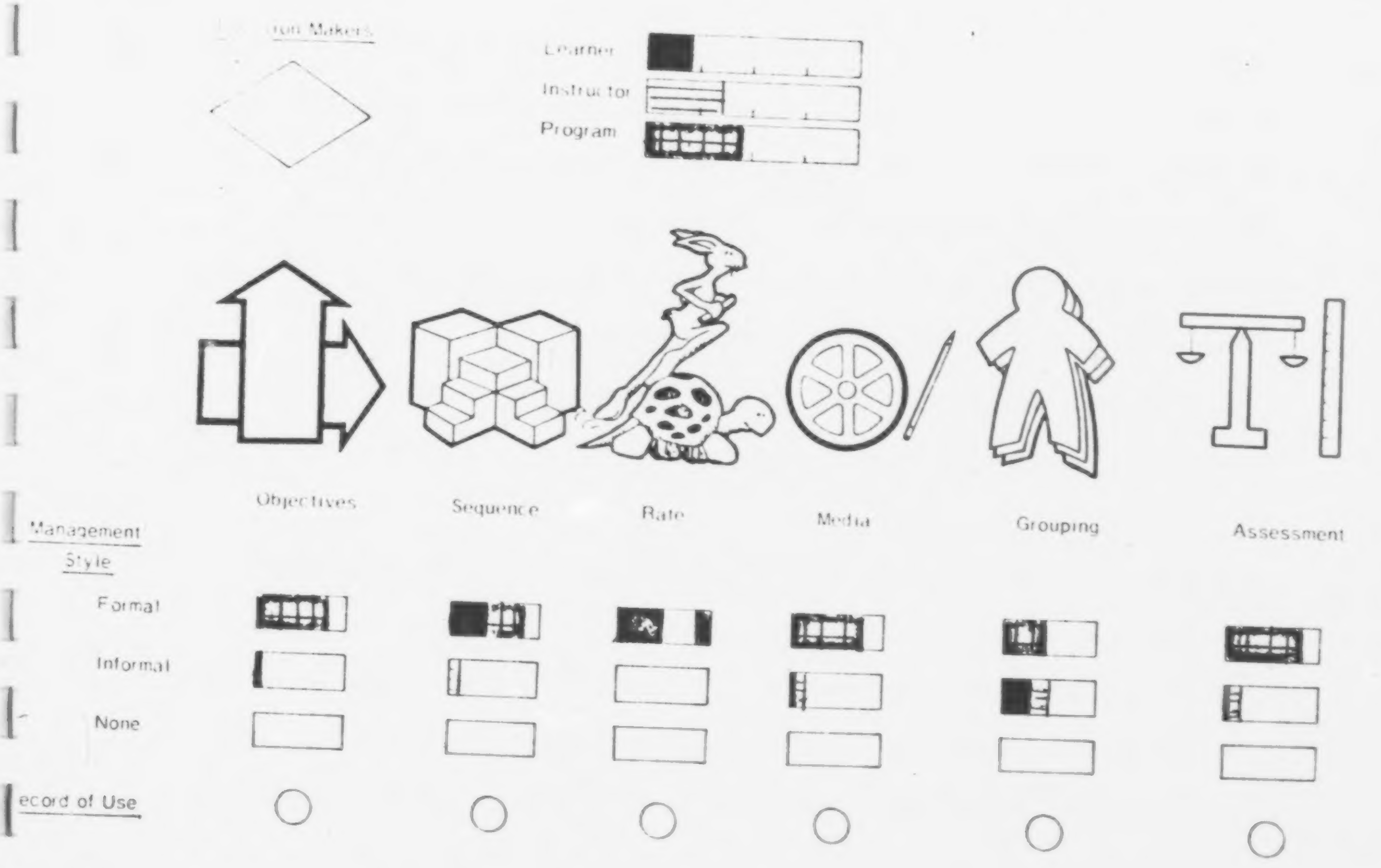



Information About Each Learner As
Skill and Concept Holder
Interest and Attitude Holder
Construction Maker
Interpersonal Relator
Is assessed
and Recorded
By the Following Procedures:
Testing
pre
mid
Products
Other Observations

MANAGEMENT OF INFORMATION


Information About Learners
Information About Instructors
Information About Program Components
Option Availability
Option Use
Skills & Concepts
Attitudes & Interests
Construction Making
Interpersonal Relating
Content Interest
Teaching Style
Objectives
Sequence
Rate
Media
Grouping
Assessment
Objectives
Sequence
Rate
Media
Grouping
Assessment
Storage Form
computer
record file
portfolio
other
Use of Information

MANAGEMENT OF INSTRUCTIONAL COMPONENTS


Decision Makers
Learner
Instructor
Program
Objectives
Sequence
Rate
Media
Grouping
Assessment
Management Style
Formal
Informal
None
ecord of Use

STUDENT REACTION TO PERSONAL ASSESSMENT FEEDBACK BY COUNSELORS

During the first day in the program, each student completed a battery of assessment instruments which had been designed by staff members at the R & D Center for Teacher Education at The University of Texas. These were scored by computer or interpreted by a trained counselor, depending upon the type of test. These instruments have been described more fully in another section of the report. Approximately three weeks later, each student met with a counselor for approximately one hour to receive feedback on the results.

This report summarizes data from student reactions to these counselor-student feedback sessions.

First Pilot Group - 1972-72

Personal assessment feedback was given to 64 students in October, 1971. A confidential reaction was requested of each student by the staff of the R & D Center. These reactions were placed in a locked box and analyzed by the R & D staff. Data for this portion of the report were drawn from their tabulation.

TABLE 1

1971-72 Student Evaluation of Counseling Interviews

Student Reactions in Percent						Criteria
NO	SOMEWHAT			YES		
1	2	3	4	5	Mean	
0	4	7	77	67	4.52	It was meaningful and important.
26	20	22	17	15	2.75	It was an emotional experience for me.
0	2	0	24	73	4.65	The counselor seemed to understand me.
83	7	0	9	2	1.35	I did not fully trust the counselor.
0	2	2	20	76	4.70	The experience was encouraging.

32.61% of the students indicated that they would like to arrange further counseling.

The vast majority of students concluded the experience had been a meaningful and important one for them. Eighty-nine percent rated the experience as a 4 or 5 while only 4 percent rated it a 1 or 2.

For some students the counselor interview was an emotional experience, but not for others. In fact, student opinions were about evenly distributed with respect to this item.

Students almost universally believed that the counselor seemed to understand them. Only 2 percent of reactors marked this item a 2, with 98 percent marking it 4 or 5.

Students reported they generally trusted the counselor.

Eleven percent indicated some lack of trust, however. Ninety-six percent indicated the experience was encouraging.

The following comments were made by the students:

1. I feel that by this experience, I will have a better outlook, and will be more aware of the things that will help or hinder me.
2. A counseling situation is good because the nature of its purpose tends to liberate me to talk about intensely personal things that I otherwise wouldn't feel comfortable talking about.
3. I felt that I needed this counseling and what I learn about myself will help me in the future.
4. I already knew most of the things which she brought out, but I learned how better to handle my situation.
5. While testing I could not see the value of the tests, but after the interview, I can appreciate the testing more.
6. I enjoyed the counseling but I could see my personal interaction between counselor and student before the counselor gave any counseling.
7. If I have problems in the future, I would feel free to request further counseling, because I feel like it would be beneficial to me as a person and teacher.
8. It was helpful.
9. Talking about myself seems to be an "emotional experience" for me. I did trust and like the counselor!
10. I know I can discuss another ME!
11. Detected things only I know unreal experience. Fabulous person!
12. It was a worthwhile experience.
13. It helped me to come to know myself better. It made me think about my role in life.
14. It helped me have a better look at myself in relation to others and teaching.

15. The tests were more accurate than I believed they would be.

16. The session was encouraging because it helped me look at some ways of coping with weaknesses and using strength.

17. I would like to arrange for interviews as I feel I need them.

18. It brought out a lot of basic things in my life -- more than I can deal with all at once.

19. Don't phrase questions double negatively.

20. I enjoyed the interview very much and now feel free to talk to one of the counselors at any time.

21. Counselor was open and pointed out some interesting "food for thought," and I enjoyed the session.

Second Pilot Group - 1972-73

In the fall of 1972, the same assessment battery was given to 84 new students. Students were again asked to react to the experience.

An instrument similar to the one employed the previous year was used with two exceptions. First, item 2 was reworded to "It was a positive emotional experience for me" to secure information as to the direction of feelings toward the interview. This changed the meaning from simply whether or not it was an emotional experience to whether it had positive overtones.

Second, negatively worded items were reworded for congruency of direction in response. Third, a new item was added: "The experience was relevant to teaching."

The ranges of potential response was from 1 (no) to 5 (yes) as with the previous instrument. Three counselors provided the feedback; mean reactions to each of the six items for each of the three counselors are shown in Table 2.

TABLE 2

1972 Students' Mean Ratings of PAF by Three Counselors

Statement Concerning PAF	Counselors A	Counselors B	Counselors C
It was meaningful and important.	4.60	4.22	4.33
It was a positive emotional experience for me.	4.40	4.27	4.12
The counselor seemed to understand me.	4.65	4.45	4.35
I did trust the counselor.	5.00	4.59	4.57
The experience was encouraging.	4.63	4.27	4.04
The experience was relevant to teaching.	4.60	4.22	4.14
Total Mean	4.64	4.33	4.25

As with the first group, students in the second pilot group reacted very positively to the personal assessment feedback by counselors. Counselors were rated about equally by students; however, counselor A consistently received somewhat higher ratings.

STUDENT EVALUATION OF CBTE

Bruce Thompson

In May of 1973 forty-one of the forty-five students who had remained in CBTE for almost two years were asked to give their honest reactions to the program. Table 1 provides additional information about the students in this population.

TABLE 1: DEMOGRAPHIC INFORMATION

SEX AND CERTIFICATION LEVELS OF SAMPLE STUDENTS		PROGRAM COMPLETION STATUS OF SAMPLE STUDENTS	
Female Elementary Ed. majors	18	Program completed Fall, 1972	4
Male Elementary Ed. majors	4		
TOTAL ELEMENTARY ED. MAJORS	22	Program completion Spring, 1973	34
Female Secondary Ed. majors	14	Program completion Fall, 1973	3
Male Secondary Ed. majors	5		
TOTAL SECONDARY ED. MAJORS	19		

In stating their evaluations of CBTE, the students were

Mr. Thompson was formerly a student in the University of Houston Competency-Based Teacher Education Program.

Dr. Sherry A. Borgers was primarily responsible for the development of the questionnaire used in this study, and also supervised the initial compilation of the reported data. Dr. Borgers, formerly a counselor in the U. H. CBTE Program, is currently an Assistant Professor of Education at the University of Kansas.

asked to rate modules, personnel, school experiences, feedback, their program involvement, and their commitment to teaching on a 4 (HIGH) to 1 (LOW) scale; 0 (NO OPINION) was also an option.

I. RATING OF MODULES.

Competency-based teacher education emphasizes the attainment of objectives rather than merely participation in activities. Generally, these objectives may be classified within one of the following catagories: (1) cognitive objectives, which assess what the student knows; (2) performance objectives, which assess what the student does; (3) consequence objectives, which assess the student's competence as a teacher by focusing on the learning of the pupils taught by the student; and (4) exploratory objectives, which seek to give the student an opportunity to better know himself and/or his enviornment.

Modules were a major instructional vehicle used in eliciting student attainment of the objectives of the University of Houston CBTE Program. These modules typically included the following parts: (1) a rationale explaining the module's relevance to teaching; (2) a set of objectives which establish in terms of learner-behavior the goals of the module, and which also serve as the criteria for evaluating the student's learning; (3) a pre-test designed to give the student the opportunity to demonstrate the performance of required behaviors before and in place of the completion of the modules enabling activities; (4) a set of suggested enabling activities designed to aid the learner in meeting the modules' objectives; and (5) a post-test designed to evaluate the student's learning.[1]

Specifically, modules employed in the program were grouped within one of the following seven module clusters:

1) The Affective modules were primarily exploratory in nature. The rationale for these modules emphasized that a teacher can identify with pupil concerns only after he has first coped with fears about his adequacy as a person, and second coped with fears about his adequacy as a teacher.

2) The Curriculum and Instruction modules emphasized cognitive and performance objectives. The Curriculum and Instruction modules were designed to teach students alternative ways of arranging curriculum so as to increase the liklihood of pupil learning.

3) The Measurement modules emphasized cognitive and performance objectives, and were designed to provide future teachers with the statistical tools with which to evaluate pupil performance.

4) The Psychological modules were primarily cognitive in emphasis, and were designed to teach students certain theories of psychology considered relevant to education.

5) The Socio-Cultural modules emphasized performance objectives. These modules stressed the need to consider pupil backgrounds in selecting instructional goals and strategies.

6) The Subject Area modules were designed to convey some of the teaching strategies peculiar to given genre of subject areas, for example,

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[1] Houston, W. Robert, et al., Developing Instructional Modules: A Modular System for Writing Modules (Houston: University of Houston, 1972), p. 2.

Math or Social Studies. These modules primarily emphasized performance and consequence objectives.

7) The Teaching I-III modules were designed to impart instructional strategies and theories relevant to teaching in general. These modules emphasized performance, consequence, and cognitive objectives.

Given the central importance of these instructional modules to the University of Houston CBTE Program, thus the students were asked to rate each of the program's module clusters on the basis of six criteria.

In an individualized approach wherein students decide the pace, sequence, and manner in which objectives are pursued, providing students with sufficient copies of materials which are readily available becomes both a necessity and a challenge. Some students work quickly and efficiently; others require extensive time and assistance. Students may all choose to work on a module at the same time, or some students might begin a module early in the program while other students delay work on the unit. Such individualization, especially when coupled with the necessity to write many modules and field-test them almost immediately, could lead to a management problem-- materials availability. To what extent did this problem occur in the CBTE program as it was implemented at the University of Houston?

The students were first asked to rate the modules according to the availability of the materials required for their completion. These student ratings are summarized in Table 2.

TABLE 2: PERCEPTION OF AVAILABILITY OF MODULE MATERIALS

	STUDENT REACTION					
MODULE CLUSTER	NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Affective	1	29	10	1	0	3.70
Curriculum and Instruction	2	26	9	2	2	3.51
Measurement	8	12	9	3	9	2.73
Psychological	2	23	7	7	2	3.31
Socio-Cultural	0	24	7	7	3	3.27
Subject Area (Math, etc.)	9	19	9	2	2	3.41
Teaching I-III	1	32	6	2	0	3.75

These data indicate that the students perceived most module materials as having been generally available. With respect to availability of module materials, the students rated highest the Teaching and the Affective modules. In this regard, the students rated lowest the Measurement modules.

Since many students offered no opinion regarding this or the other five criteria aimed at evaluating the Measurement and Subject Area modules, caution should be employed in interpreting student ratings of these modules. Apparently there was low student response here because some students had not at the time of the rating yet choosen to complete these modules.

Given that students internalize best those facts they perceive as being most relevant, to what extent did the students perceive the program's modules as having been relevant to teaching? Student ratings of the modules according to the modules' relevance to teaching are summarized in Table 3.

TABLE 3: PERCEPTION OF MODULES AS RELEVANT TO TEACHING

MODULE CLUSTER	STUDENT REACTION					
	NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Affective	1	25	15	0	0	3.62
Curriculum and Instruction	1	25	12	3	0	3.55
Measurement	9	3	8	6	15	1.97
Psychological	2	18	18	2	1	3.36
Socio-Cultural	0	25	15	1	0	3.58
Subject Area (Math, etc.)	8	21	10	2	0	3.58
Teaching I-III	0	37	4	0	0	3.90

On the whole the students perceived the modules as having been relevant to teaching. The students rated the Teaching modules the most relevant to teaching. The students rated the Measurement modules the least relevant to teaching.

Table 4 summarizes student ratings of the modules on the criterion of the modules having been clearly written and understandable. The students generally perceived the modules as having been clear and understandable. The students rated the Teaching modules the highest while the Measurement modules were rated lowest.

TABLE 4: PERCEPTION OF MODULES AS CLEARLY WRITTEN AND UNDERSTANDABLE

	STUDENT REACTION					
	NO OPINION	HIGH			LOW	
MODULE CLUSTER	0	4	3	2	1	MEAN
Affective	1	27	10	2	1	3.58
Curriculum and Instruction	1	18	7	11	4	2.98
Measurement	12	5	4	11	9	2.17
Psychological	2	15	13	8	3	3.02
Socio-Cultural	0	22	15	1	3	3.36
Subject Area (Math, etc.)	9	12	13	6	1	3.12
Teaching I-III	0	32	8	1	0	3.76

Next, the students were asked to rate the modules as to the modules having been worthwhile and meaningful. Table 5 summarizes these data.

TABLE 5: PERCEPTION OF MODULES AS WORTHWHILE AND MEANINGFUL

	STUDENT REACTION					
	NO OPINION	HIGH			LOW	
MODULE CLUSTER	0	4	3	2	1	MEAN
Affective	2	20	15	4	0	3.41
Curriculum and Instruction	2	22	11	5	1	3.38
Measurement	11	2	4	10	14	1.80
Psychological	2	18	16	4	1	3.31
Socio-Cultural	0	22	18	1	0	3.51
Subject Area (Math, etc.)	9	19	11	1	1	3.50
Teaching I-III	0	35	6	0	0	3.85

The students generally perceived the modules as having been worthwhile and meaningful. The students rated the Teaching modules the most worthwhile and meaningful. Of all the clusters of modules, the students rated the Measurement modules as least worthwhile and meaningful.

Fifth, the students were asked to rate the modules according to whether or not the modules required a reasonable amount of time to be completed. These ratings are summarized in Table 6.

TABLE 6: PERCEPTION OF MODULES AS REQUIRING A REASONABLE AMOUNT OF TIME

	STUDENT REACTION					
MODULE CLUSTER	NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Affective	1	30	8	2	0	3.70
Curriculum and Instruction	1	20	12	5	3	3.22
Measurement	13	4	3	7	14	1.89
Psychological	2	20	13	5	1	3.33
Socio-Cultural	0	16	14	8	3	3.05
Subject Area (Math, etc.)	9	18	10	4	0	3.44
Teaching I-III	0	33	7	1	0	3.78

On the whole the students perceived the modules as having required a reasonable amount of completion time. With regard to the criterion, "required reasonable amount of time," the students rated highest the Teaching and the Affective modules. The Measurement modules were rated as least requiring a reasonable amount of time.

The students were last asked to rate the module instructors as to their having been co-operative. Table 7 summarizes these student ratings.

TABLE 7: PERCEPTION OF MODULE INSTRUCTORS AS CO-OPERATIVE

MODULE CLUSTER	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Affective	1	32	8	0	0	3.80
Curriculum and Instruction	1	37	2	1	0	3.90
Measurement	13	7	6	4	11	2.32
Psychological	3	25	6	3	4	3.37
Socio-Cultural	0	31	9	1	0	3.73
Subject Area (Math, etc.)	9	24	6	1	1	3.66
Teaching I-III	0	38	2	1	0	3.90

The students generally perceived the module instructors as having been co-operative. The students rated as most co-operative the instructors for the Teaching and the Curriculum and Instruction modules. The students rated the Measurement module instructors the least co-operative.

Table 8 presents a summary of the means of all student ratings of the program's modules. Comparison of the module clusters by the means of these ratings seems to support the following conclusions:

1. The students as a group rated highest the Teaching and the Affective modules.

TABLE 8: SUMMARY OF THE MEANS OF THE STUDENT RATINGS OF THE MODULE CLUSTERS

EVALUATION CRITERIA	MODULE CLUSTER							
	AFFECTIVE	CURRICULUM	MEASUREMENT	PSYCHOLOGICAL	SOCIO-CULTURAL	SUBJECT AREA	TEACHING	MEAN
Availability of materials	3.70	3.51	2.73*	3.31	3.27	3.41	3.75**	3.38
Relevant to teaching	3.62	3.55	1.97	3.36	3.58	3.58	3.90*	3.36
Clearly written & understandable	3.58	2.98**	2.17	3.02**	3.36	3.12**	3.76	3.14
Worthwhile & meaningful	3.41**	3.38	1.80**	3.31	3.51	3.50	3.85	3.25
Required reasonable amount of time	3.70	3.22	1.89	3.33	3.05**	3.44	3.78	3.20
Instructors were co-operative	3.80*	3.90*	2.32	3.37*	3.73*	3.66*	3.90*	3.52
MEAN RATING FOR MODULE CLUSTER	3.64	3.42	2.15	3.28	3.42	3.45	3.82	

NOTE: A single asterisk following a rating indicates that this is the highest rating for that module cluster. Two asterisks following a rating indicates that this is the lowest rating for that module cluster.

2. The students as a group rated lowest the Measurement modules.

3. The students as a group were most favorable toward the modules on the criterion of the modules being clearly written and understandable.

4. The students as a group were most favorable toward the modules on the criterion of the modules' instructors being co-operative. (Except in the case of the measurement modules, every module cluster was rated highest on this criterion of instructor co-operativeness.)

II. RATING OF PERSONNEL.

The CBTE Program as implemented at the University of Houston was largely based on three fundamental assumptions: (1) teachers teach best who are accepting of themselves and their students, (2) persons can learn to be accepting of themselves and others only through interaction with other persons, and (3) students learn best from teachers who are accepting of students as individual persons. Partially as a consequence of these assumptions, the University of Houston CBTE professionals sought to relate in a personal way with the students in the program.

These CBTE professionals assumed responsibilities within the context of the following roles: (1) co-operating teacher in a school, (2) counselor, (3) university professor or graduate student, (4) university professional supervising field experiences. In some instances given CBTE personnel assumed several of these roles at one time. In an effort to determine the extent to which the students perceived the CBTE personnel as contributing to the students' personal and professional growth, the students were asked to evaluate the personnel on the basis of eight criteria.

Students were first asked to rate program personnel as to the extent the personnel were understanding. Table 9 summarizes data with respect to these student ratings.

TABLE 9: PERCEPTION OF PERSONNEL AS UNDERSTANDING

PERSONNEL ROLE	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Co-operating teacher	0	35	4	1	1	3.80
Counselor	3	35	3	0	0	3.92
Professor or graduate student	1	33	7	0	0	3.82
U.H. supervisory personnel	6	26	6	1	2	3.60

The students generally perceived the program personnel as having been understanding. The students rated the counselors the most understanding; they rated the supervisory personnel the least understanding.

Several students offered no opinion regarding this or the other criteria aimed at measuring student perceptions of supervisory personnel. Apparently some students had no opinion regarding supervisory personnel because these students had had little contact with those professionals representing this personnel catagory. This conclusion was supported later by the student rating of school experiences; the students were most critical of school experiences with regard to their being well supervised by college faculty.

The students were next asked to rate program personnel as to the extent the personnel were friendly.

TABLE 10: PERCEPTION OF PERSONNEL AS FRIENDLY

PERSONNEL ROLE	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Co-operating teacher	0	36	4	0	1	3.83
Counselor	3	36	2	0	0	3.95
Professor or graduate student	1	35	5	0	0	3.88
U.H. supervisory personnel	6	29	5	0	1	3.77

On the whole the students perceived the program personnel as having been friendly. The counselors were rated most friendly. The supervisory personnel were rated least friendly.

Table 11 summarizes the student rating of program personnel as to the extent the personnel were stimulating. The students generally perceived the program personnel as having been stimulating. The students rated the counselors the most stimulating. The students rated the co-operating teachers and the supervisory personnel the least stimulating.

TABLE 11: PERCEPTION OF PERSONNEL AS STIMULATING

PERSONNEL ROLE	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Co-operating teacher	0	23	13	3	2	3.39
Counselor	3	30	7	1	0	3.76
Professor or graduate student	1	25	14	0	1	3.58
U.H. supervisory personnel	6	22	7	4	2	3.40

Next, the students were asked to rate program personnel as to the extent the personnel were enthusiastic. These ratings are summarized in Table 12.

TABLE 12: PERCEPTION OF PERSONNEL AS ENTHUSIASTIC

PERSONNEL ROLE	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Co-operating teacher	0	27	11	2	1	3.56
Counselor	3	30	8	0	0	3.79
Professor or graduate student	1	28	11	1	0	3.68
U.H. supervisory personnel	7	22	9	1	2	3.50

The students generally perceived the program personnel as having been enthusiastic. The students rated the counselors the most enthusiastic. The students rated the supervisory personnel the least enthusiastic.

The students were then asked to rate program personnel as to the extent the personnel were "helpful to me." These ratings are summarized in Table 13.

TABLE 13: PERCEPTION OF PERSONNEL AS "HELPFUL TO ME"

PERSONNEL ROLE	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Co-operating teacher	0	31	9	0	1	3.71
Counselor	3	32	6	0	0	3.84
Professor or graduate student	1	31	6	3	0	3.70
U.H. supervisory personnel	6	22	9	1	3	3.43

The students generally perceived the program personnel as having been "helpful to me." The students rated the counselors as most "helpful to me." The students rated the supervisory personnel the least "helpful to me."

Sixth, the students were asked to rate program personnel as to the extent the personnel were "interested in me." These data are summarized in Table 14.

TABLE 14: PERCEPTION OF PERSONNEL AS "INTERESTED IN ME"

PERSONNEL ROLE	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Co-operating teacher	0	29	9	2	1	3.61
Counselor	3	34	3	1	0	3.87
Professor or graduate student	1	32	8	0	0	3.80
U.H. supervisory personnel	6	24	8	2	1	3.57

The students generally perceived the program personnel as having been "interested in me." The students rated the counselors as most "interested in me." The students rated the supervisory personnel the least "interested in me."

The students were next asked to rate their inclination to recommend program personnel to other students.

TABLE 15: RATING OF INCLINATION TO RECOMMEND PERSONNEL TO OTHER STUDENTS

PERSONNEL ROLE	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Co-operating teacher	0	31	7	2	1	3.66
Counselor	3	36	1	1	0	3.92
Professor or graduate student	1	34	5	1	0	3.82
U.H. supervisory personnel	6	26	5	0	4	3.51

Student ratings indicated a general willingness to recommend program personnel to other students. Of the four catagories of personnel, the students rated themselves as having greatest inclination to recommend to counselors to other students. The students rated themselves least willing to recommend the supervisory personnel to other students.

Last, the students were asked to rate certain responses to the question: "When you needed help, whom did you contact?" Table 16 summarizes these ratings.

TABLE 16: RATING OF RESPONSES TO THE QUESTION: "WHEN YOU NEEDED HELP, WHOM DID YOU CONTACT?"

PERSONNEL ROLE	STUDENT REACTION					
	NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Co-operating teacher	1	22	10	5	3	3.28
Counselor	4	12	10	9	6	2.76
Professor or graduate student	3	17	13	5	3	3.16
U.H. supervisory personnel	2	15	11	5	8	2.85
Other (Specify: most frequent answer- friend)	20	14	4	2	1	3.48

Except with regard to the counselors and the supervisory personnel, students needing assistance were generally inclined to deal with persons in each of the personnel catagories.

Table 17 presents a summary of the means of the student

TABLE 17: SUMMARY OF THE MEANS OF THE STUDENT RATINGS OF THE PROGRAM'S PERSONNEL

EVALUATION CRITERIA	PERSONNEL ROLE				
	CO-OPERATING TEACHER	COUNSELOR	PROFESSOR OR GRADUATE STUDENT	SUPERVISOR	MEAN
Understanding	3.80	3.92	3.82	3.60	3.78
Friendly	3.83*	3.95*	3.88*	3.77*	3.86
Stimulating	3.39**	3.76**	3.58**	3.40	3.53
Enthusiastic	3.56	3.79	3.68	3.50	3.63
Helpful to me	3.80	3.84	3.70	3.34**	3.67
Interested in me	3.61	3.87	3.80	3.48	3.69
Would recommend to other students	3.66	3.92	3.82	3.57	3.74
MEAN RATING FOR PERSONNEL CATAGORY	3.66	3.86	3.75	3.52	

NOTE: A single asterisk following a rating indicates that this is the highest rating for that personnel catagory. Two asterisks following a rating indicates that this is the lowest rating for that personnel catagory.

ratings of the program's personnel. Comparison of the personnel catagories by the means of the student ratings seems to support the following conclusions:

1. The students as a group rated highest the counselor personnel.
2. The students as a group rated lowest the supervisory personnel.
3. The students as a group were least favorable toward the program personnel on the criterion of the personnel being stimulating.
4. The students as a group were most favorable toward the program personnel on the criterion of the personnel being friendly.

III. RATING OF SCHOOL EXPERIENCES.

With respect to field experiences, the University of Houston Competency-Based Teacher Education Program was based on at least these assumptions: (1) instructors should be effective teachers in a maximum number of educational enviornments; (2) such competence, to the extent it comes, will come only as a function of actual experience in these settings themselves; (3) students will best learn educational theory if they are taught this theory during student teaching rather than before it. Consequent to these assumptions, the University of Houston CBTE Program placed special emphasis on field experiences. Specifically, in contrast to the non-CBTE Houston student, the CBTE student: (1) taught in a larger number and a wider variety of schools; (2) assumed instructional responsibilities earlier; and (3) underwent field experiences of longer duration.

In what ways and to what extent did the students perceive these expanded field experiences to be helpful? To answer this question the students were asked to rate possible ways in which their school experiences might have advanced their professional growth. These data are summarized in Table 18.

TABLE 18: RATING OF POSSIBLE WAYS SCHOOL EXPERIENCES FACILITATED PROFESSIONAL GROWTH

FIELD EXPERIENCES "HELPED ME TO..."	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Achieve competency in subject matter	0	27	6	4	4	3.36
Achieve competency in teaching strategies	0	31	9	1	0	3.73
Achieve competency in class management	0	33	4	4	0	3.71
Achieve competency in recognizing and responding to student needs	0	35	6	0	0	3.85
Make university experiences more meaningful	0	26	12	2	1	3.54
Learn about general school routines, policies, and legal responsibilities	0	31	8	2	0	3.71

The students generally perceived their field experiences as having facilitated their professional growth. The students rated school experiences highest with regard to the criterion "helped me to achieve competency in recognizing and responding to student needs." The students rated school experiences lowest with regard to the criterion "helped me to achieve competency in subject matter."

In an effort to determine general students perceptions of their field experiences, the students were next asked to rate possible characterizations of these experiences. These ratings are summarized in Table 19.

TABLE 19: RATING OF POSSIBLE CHARACTERIZATIONS OF SCHOOL EXPERIENCES

POSSIBLE CHARACTERIZATIONS	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Were well supervised by college faculty	1	9	13	6	12	2.48
Were congruent with university experiences	0	15	14	9	3	3.00
Had a positive influence on my commitment to teaching	0	30	6	3	2	3.56

With respect to characterization of their field experiences, the students rated lowest the characterization "were well supervised by college faculty." The students rated highest the characterization "had a positive influence on my commitment to teaching."

IV. RATING OF FEEDBACK.

Throughout the duration of the program, efforts were made to provide students with feedback regarding their professional growth. Often such feedback fell within one of the following catagories of feedback:

1. Personal Assessment Feedback. Early in the program the students completed a personality assessment test. This test was administered on the basis of the belief that students can become effective teachers only if they learn to cope with any concerns they have regarding their adequacy as persons. The test was administered to provide students with an opportunity to determine their progress in this regard. Individual counselors shared this feedback with individual students.

2. School Feedback. Students were observed in the field by supervisory personnel who probed students regarding their own evaluation of their observed performance.

3. Video-tape Feedback. At different times, in efforts to demonstrate certain competencies, students video-taped themselves teaching in peer- or field-instruction situations. Students were usually given feedback on these tapes by a team composed of one counselor and one curriculum instructor.

In an effort to determine the students' evaluation of this feedback, the students were asked to rate these three feedback catagories on the basis of four criteria.

The students were first asked to rate the feedback catagories as to the extent each type of feedback had been worthwhile. These ratings are summarized in Table 20.

TABLE 20: PERCEPTION OF FEEDBACK AS WORTHWHILE

FEEDBACK CATAGORIES	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Personal assessment feedback	0	32	6	3	0	3.71
School feedback	2	28	7	2	2	3.56
Video-tape feedback	2	29	8	2	0	3.69

The students rated all three feedback types as having been generally worthwhile. The students rated personal assessment feedback the most worthwhile. The students rated school feedback the least worthwhile.

The students were next asked to rate the feedback catagories as to the extent each type of feedback had been relevant to teaching. Table 21 summarizes these data.

TABLE 21: PERCEPTION OF FEEDBACK AS RELEVANT TO TEACHING

FEEDBACK CATAGORIES	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Personal assessment feedback	1	27	11	2	0	3.62
School feedback	2	28	7	2	2	3.56
Video-tape feedback	2	31	5	3	0	3.72

The students rated all three feedback types as having been relevant to teaching. The students rated video-tape feedback the most relevant to teaching. The students rated school feedback the least relevant to teaching.

Third, the students were asked to rate the feedback catagories as to the extent each type of feedback had been a positive experience. Table 22 presents a summary of these ratings.

TABLE 22: PERCEPTION OF FEEDBACK AS A POSITIVE EXPERIENCE

FEEDBACK CATAGORIES	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Personal assessment feedback	0	30	9	2	0	3.68
School feedback	1	27	8	3	2	3.50
Video-tape feedback	2	28	10	1	0	3.69

The students rated all three feedback types as having been a positive experience. The students rated video-tape feedback the most positive experience. The students rated school feedback the least positive experience.

Last, the students were asked to rate the feedback catagories as to the extent each type of feedback had "recognized my feelings and reactions." Table 23 summarizes these data. The students rated all three feedback catagories high with respect to the criterion "recognized my feelings and reactions." The students rated the personal assessment feedback highest in this regard. The students rated school feedback as least recognizing their feelings and reactions.

TABLE 23: PERCEPTION OF FEEDBACK AS "RECOGNIZED MY FEELINGS AND REACTIONS"

FEEDBACK CATAGORIES	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Personal assessment feedback	0	30	8	3	0	3.66
School feedback	1	28	6	4	2	3.50
Video-tape feedback	2	27	10	2	0	3.64

Table 24 present a summary of the means of all the student ratings of the program's feedback.

TABLE 24: SUMMARY OF THE MEANS OF THE STUDENT RATINGS OF PROGRAM FEEDBACK

ASSESSMENT CRITERIA	FEEDBACK CATAGORIES PERSONAL ASSESSMENT FEEDBACK	SCHOOL FEEDBACK	VIDEO-TAPE FEEDBACK	MEAN
Worthwhile	3.71*	3.56*	3.69	3.65
Relevant to teaching	3.62**	3.56*	3.72*	3.63
Positive experience	3.68	3.50**	3.69	3.62
Recognized my feelings and reactions	3.66	3.50**	3.64**	3.60
MEAN RATING FOR FEEDBACK CATAGORY	3.67	3.53	3.68	

NOTE: A single asterisk following a rating indicates that this is the highest rating for that feedback catagory. Two asterisks following a rating indicates that this is the lowest rating for that feedback catagory.

Comparison of the feedback catagories by the means of the student ratings of these catagories seems to support the following conclusions:

1. The students as a group rated video-tape feedback and personal assessment feedback higher than they rated school feedback.
2. The students as a group rated the three feedback catagories high with respect to all four of the assessment criteria.

V. RATING OF INVOLVEMENT IN THE PROGRAM.

The University of Houston Competency-Based Teacher Education Program was based on an assumption that students learn best in a program in which they feel involved, and thus an effort was made to in several ways involve the students in the program. In what measure did this effort succeed? In an attempt to determine the answer to this question, the students were asked to rate six statements regarding their perceptions of their program involvement. These ratings are summarized in Table 25. The students rated highest the involvement criterion "My feedback about CBTE has been requested and used." The students rated lowest the involvement criterion "I feel that I have been involved in decisions made in the program." These data seem to support a conclusion that the students felt themselves to have been only somewhat involved in the program.

VI. STUDENT PERCEPTIONS OF THEMSELVES AS PROFESSIONALS.

Finally, in an effort to determine the students' perceptions of themselves as professionals, the students were asked to rate several statements with regard to their own competence as teachers

TABLE 25: PERCEPTION OF INVOLVEMENT IN THE PROGRAM

INVOLVEMENT CRITERIA	STUDENT REACTION					
	NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
I feel that I have been involved in the planning of this program.	0	10	11	14	6	2.61
My feedback about CBTE has been requested and used.	3	14	17	7	0	3.18
I feel that I have been involved in the decisions made in the program.	1	6	14	13	7	2.48
I have been well informed about CBTE in general.	0	16	17	5	3	3.12
I have been well informed about my personal progress in the program.	0	16	17	4	4	3.10
There is no hidden agenda in this program.	5	16	4	13	3	2.92

and their own commitment to teaching.

The students were first asked to rate six statements with regard to their competence as teachers. Table 26 summarizes these data.

TABLE 26: PERCEPTION OF PROFESSIONAL COMPETENCE

COMPETENCY CRITERIA	STUDENT REACTION NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
Competent in subject matter	0	28	12	1	0	3.66
Competent in strategies	0	19	19	3	0	3.39
Competent in classroom management	1	18	13	6	3	3.15
Competent in understanding and responding to student needs	0	25	16	0	0	3.61
Competent in taking charge of my own classroom	0	28	12	1	0	3.66
Confident that I can teach in most public school situations	0	28	9	4	0	3.58

The students rated themselves highest with respect to the criteria "competent in subject matter" and "competent in taking charge of my own classroom." The students rated themselves lowest with respect to the criterion "competent in classroom management." These data seem to indicate that the students generally perceived themselves to be competent professionals.

Last, in an effort to measure their commitment to teaching, the students were asked to rate two additional statements. These ratings are summarized in Table 27.

TABLE 27: RATING OF COMMITMENT TO TEACHING

COMMITMENT CRITERIA	STUDENT REACTION					
	NO OPINION 0	HIGH 4	3	2	LOW 1	MEAN
I plan to teach.	0	35	3	1	2	3.73
I am enthusiastic about teaching.	0	34	6	1	0	3.80

The students rated high both the statement "I plan to teach" and the statement "I am enthusiastic about teaching." These data indicate that near the end of their program involvement the students as a group had a high commitment to teaching.

VII. ADDITIONAL STUDENT COMMENTS AND SUGGESTIONS.

The students were also asked to comment about their most and least beneficial experiences and to make suggestions for improving the program. In decreasing order of frequency, the students listed the following experiences as having been most beneficial: school experiences, understanding of self and/or of others, relationship with faculty, interest of others in student as a person, better training than in the traditional program, video-tape feedback, gaining of self-confidence, freedom and independent study, friends and closeness, various modules (Teaching I was often mentioned), seminars and group meetings, and the retreat.

In decreasing order of frequency, the students listed the following experiences as having been least beneficial: lack of supervision of field experiences, the Measurement modules, lengthy readings and modules, the Psychological modules, weekly group meetings (when there was no agenda), inadequate training in classroom management, the retreat, and the second internship.

The areas in which the students suggested improvements were: more and better program organization, increased supervision (especially in the schools), better communication with both students and school personnel, more personnal who are available to students and are committed to CBTE, more structure, more realistic time demands (many students stated they feared never finishing), more definite work requirements, better integration of modules and field experiences, greater availability of materials, revision of many modules, and assignment of permanent advisors. Also, several students requested a "rap" session where they and interested faculty could meet to discuss this evaluation and CBTE.

SECTION 9

SUPPORTING PROJECT DOCUMENTATION

Bowles, Douglas and Max Miller. Educational Decision Making, 1972.
This paper reviews the literature in decision making, outlining several models, and analyzing their differences. 46 pages. $1.50

College of Education Staff, Rationale, Assumptions and Competencies for CBTE, 1973.
This paper outlines the theoretical constructs, and program elements for the University of Houston CBTE program, fall, 1973. 20 pages. $ .90 each.

Houston, W. Robert and Loye Hollis. Performance-Based Mathematics Education, 1971. 10-minute slide/tape presentation.
This slide/tape presentation describes and illustrates one of the prototype testing classes for competency-based education. Describes types of objectives used, evaluation procedures, and several innovative instructional procedures.

Houston, W. Robert, Loye Hollis, Howard Jones, Don Edwards, Ann Pace, and Sarah White. Developing Instructional Modules, 1972.
188-page worktext - $4.00 each. Instructional system including four slide/tapes, five audio-tapes, Director's Guide, and one worktext - $75.00. The purpose of this system is to facilitate the writing of instructional modules. It includes 7 sections: Write criterion-referenced objectives, Classify educational objectives, Design flow charts, Specify enabling activities, Develop assessment procedures, Outline module and component formats, and Identify module development process. A worktext is required for each participant. The system has been used in many 3-day writing conferences throughout the country.

Jackson, Andrew S. Module Evaluation Questionnaire, 1972.
This questionnaire was written to elicit feedback from students on each module as it is completed. Designed to be used with machine-scored answer sheets, it taps perception on the Prospectus, Pre-Assessment, Learning Activities, Post-Assessment, and General Thoughts.
9 pages; $ .80 each.

Orman, Bill. Crossover: Implications and Generalizations. 1971.
This paper summarizes the results of 60 interviews with teachers who had recently been reassigned to schools where the predominant race of students differed from their own. Black teachers in white schools and white teachers in black schools faced similar problems -- they were concerned about parents and they had difficulty with classroom management and expectations for pupils. 10 pages; $ .80.

Verner, Zenobia, and others. Generic Competencies for Secondary School Teachers, 1973.
A list of competencies and sub-competencies for secondary school teachers were revised from those listed in the Houston Needs Assessment System. 8 pages; $ .80.

Note: In addition to the above, limited numbers of all modules described in this document are available at cost to the reader. For further information, contact

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University of Houston
Cullen Boulevard
Houston, Texas 77004